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EDUCATION OF EXCEPTIONAL CHILDREN
AND MINORITY GROUPS

AMERICAN EDUCATIONAL RESEARCH ASSOCIATION

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This issue of the REVIEW was prepared
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FOREWORD

THIS ISSUE covers one of the new areas or topics placed in the regular schedule for the REVIEW by the Editorial Board at the beginning of the fourth cycle in 1940. It is designed to cover special emphases or needs in philosophy, organization, administration, curriculum, teaching, and research which are called for by children who differ significantly from the main body of pupils in the public schools. It thus includes exceptional children, as the term is conventionally used (mentally, physically, and emotionally or socially exceptional), and racial minorities which present special problems as well as the general problems of bilingual children.

The present topic overlaps at points with certain others. Children from homes and neighborhoods disturbed by poverty, conflicts, and disorganization are discussed, with slightly differing emphases, both here and in the issues on Mental Hygiene and Health Education (December 1940 and December 1936), and somewhat incidentally in issues on Pupil Personnel, Guidance, and Counseling (April 1939 and April 1936). Adaptations in the internal organization of school systems to meet the needs of special groups are dealt with both here and in issues on Organization and Administration of Education (October 1940, October 1937, etc.); but extensions of the school system to include adult, out-of-school youth, and preschool groups, emergency defense education, correctional education, and other specially organized groups or schools, are left entirely to the issues on organization and administration, or those closely related. Children having difficulties with individual school subjects, and needing remedial instruction, are not considered in this issue. With such exceptions, the present issue deals in general with children who may in some way or other be regarded as handicapped for the regular work of the schools and as having specific difficulty in meeting the conditions of life in our society.

Because this is a new topic and preceding treatments are scattered, it may be appropriate to list earlier discussions in the REVIEW which have dealt with various aspects of the present area in an organized fashion.

December	1940—	Chapters II, III, IV, VI, VII
October	1940—	Chapter V, Section B
February	1940—	Chapter III
April	1939—	Pages 180-84
December	1936—	Chapters II, III, V, VI, VII
April	1936—	Chapters VIII, IX
February	1934—	Pages 81-82
June	1933—	Chapter IX
April	1933—	Chapter I

Additional incidental treatments will be found by consulting the annual index in the December issue for topics such as Special Education, Exceptional Children, and Nationality.

DOUGLAS E. SCATES
Chairman of the Editorial Board

INTRODUCTION

THE TERM "exceptional children" has been used, for lack of a better phraseology, to denote those who, by reason of a marked mental, physical, or emotional deviation from a so-called "average," require special school adjustments if they are to fulfil their potentialities for learning and for living. Modern developments in educational philosophy and methods have, of course, stressed the principles of individual differences and of the need of individual adjustment for every pupil. The special adjustment measures provided for exceptional children are only an application of this basic philosophy. The authors of the chapters which follow in Part I present the significant studies that have been made during recent years in the effort to arrive at the best possible means of putting such adjustments into operation. Since a knowledge of the psychological background of exceptional children is essential to an intelligent determination of the educational procedures to be used, pertinent psychological studies are reported in the discussion of certain of the groups.

In the great melting pot of American democracy, the significance of the problems presented in Part II is obvious. Under three major headings the educational needs and progress of the Negroes, of the Indians, and of bilingual children of foreign parentage or from foreign-speaking homes are considered. Chapter 9 on "The Indians" is of particular interest because it represents a pioneer effort to bring together the results of studies which approach research in this field. As the authors of the chapter point out, "educational research in the narrower sense has been almost completely absent in the field of Indian education and administration." In Chapter 9 they have given us a report which may well stimulate further developments in the scientific analysis of educational problems that are of special significance to the Indians.

This is the first time in the history of the REVIEW OF EDUCATIONAL RESEARCH that a complete issue has been given to the topics here under consideration. Certain previous issues have, under more comprehensive titles, contained limited reference to one or another aspect of the problems of special education for handicapped and gifted children. Likewise, certain phases of the educational welfare of Negroes have received occasional attention. Problems of bilingualism have scarcely been touched in past numbers, and the education of Indians is a totally new topic. It is, therefore, with considerable gratification that the Committee offers this June 1941 issue to readers of the REVIEW as a report of research in the interests of special groups of individuals, the wise education of whom is of paramount importance to the progress of American education.

The period covered by the research reported in this issue varies with the respective topics, determined at the discretion of the author in the light of the availability of previous reports on the same topic in the REVIEW. Most of the studies reported, however, have appeared since 1935.

The chairman of the Committee wishes at this time to acknowledge the wholehearted cooperation of Committee members and other contributors. Owing to a temporary change in her assigned duties in the United States Office of Education, made in keeping with the needs of the national defense program, much of the responsibility for compiling the material has been carried by Christine Ingram, who has accepted a temporary appointment to the Office of Education as senior specialist in the education of exceptional children. To her, the chairman of the Committee expresses special acknowledgment and appreciation.

ELISE H. MARTENS, *Chairman*
Committee on the Education of Exceptional Children
and Minority Groups

CHAPTER I

General Problems of Philosophy and Administration in the Education of Exceptional Children¹

CHARLES SCOTT BERRY

Problems of Philosophy

THE GENERAL problems of philosophy and administration in the education of exceptional children are not fundamentally different from those involved in the education of children who are not exceptional. The difference is chiefly one of emphasis. The problems of philosophy and administration in the education of all children are determined or conditioned by changes in the social order. According to the Educational Policies Commission (24:6): "Every system of thought and practice in education is formulated with some reference to the ideas and interests dominant or widely cherished in society at the time of its foundation."

Equal educational opportunity for every child, to which we have long given lip service, like "All men are created equal," means much or little depending on how it is interpreted. Its interpretation is influenced by the prevailing interests and ideas of the community. To the old-time attendance officer it meant merely that every child must attend school as long as the law required. To the traditional school teacher it meant that every child should be taught the same subjectmatter in the same way. To the leaders in education, health, and welfare who participated in the 1930 White House Conference on Child Health and Protection (31:47), equality of educational opportunity meant: "For every child an education which, through the discovery and development of his individual abilities, prepares him for life; and through training and vocational guidance prepares him for a living which will yield him the maximum of satisfaction"; and "For every child who is blind, deaf, crippled, and for the child who is mentally handicapped, such measures as will early discover and diagnose his handicap, provide care and treatment, and so train him that he may become an asset to society rather than a liability."

After years of depression during which millions of our people living in a land of plenty were "ill-housed, ill-clad, and ill-nourished," came the beginning of the Second World War in which democracy found itself on the defensive. In the light of ten years of striking and unexpected change, the 1940 White House Conference on Children in a Democracy (32:2) broadened the earlier conception of democracy to include equal economic opportunity and capacity for cooperative living, thereby giving a new meaning to equality of educational opportunity.

¹ Bibliography for this chapter begins on page 259.

The Committee of the Regents' Inquiry (14:50) which formulated a new educational program for the state of New York recommended that instruction be organized to provide more adequately for individual differences in children, that steps be taken to reduce the high percent of non-promotion, and that educational provisions for mentally and physically handicapped children be strengthened. The Advisory Committee on Education (2:2) appointed by the President in 1936 reported that a new social attitude toward children had gained wide acceptance, and that this new social attitude had found expression in legislation concerning children; in the extension of child welfare services; in the intelligent interest manifested by parents in providing suitable home conditions for children; in the adaptation of school instruction to the individual needs of children and youth; and in the inclusion of health and welfare services as an integral part of the school program.

These reports of national organizations clearly show that equal educational opportunity for every child involves among other things: (a) recognition of the social, economic, and educational significances of individual differences in children and the importance of making more adequate provision for individual differences in the educational program; (b) greater emphasis on the education of the whole child both as an individual and as a member of the group.

Problems in Administration

For this new and broader interpretation of equality of opportunity to find full expression in educational practice requires the solution of many problems in administration—problems concerned with the child, the nation, the state, the city, and the rural district. To change the traditional or curriculum-centered school to a child-centered school while the school continues to run is a much more difficult problem in administration than it is to reconstruct a railroad bridge while the trains continue to run; the former requires not only changes in buildings, equipment, supplies, subjectmatter, and methods of instruction, but also, unlike the latter, a retraining of the personnel.

Hutcherson, as quoted by Hawkins (15:3), said that "there can be no misfit children. The child is what education is for. One might as well say a man does not fit his clothes as to say that the child does not fit the school. Such a point of view dictates that the school delve deeply into the true nature of each pupil, as an individual, and that the facilities of the school be so utilized that he will achieve in accordance with his special abilities and interests." A fundamental understanding of the exceptional child is essential to the development of his unique possibilities. Without such an understanding there can be no equality of educational opportunity for the seriously handicapped child.

The Gluecks (12:20) reported in their study of criminals that "the most marked difference between the reformed and unreformed lies in the factor of mental and emotional difficulties as evidenced by the finding

that only 15.2 percent of those who reformed were burdened with some psychiatric condition as opposed to 39.9 percent of those who continued to be delinquent or criminal." In a later study of juvenile delinquents they (11:113) found that "a significantly higher proportion of the youths who eventually reformed were without the burden of abnormal mental conditions or personality deviations of one sort or another."

The New York City Bureau of Child Guidance discovered, according to Greenberg (13:103), that children with IQ's of 130 or above had four times their share of personality or social maladjustments. The psychologist, the psychiatrist, the physician, the social worker, the visiting teacher, and the guidance specialist, as individuals, and the child guidance clinic, the child guidance conference, and the coordinating council, as agencies, all play a comparatively new role in the understanding and adjustment of the child who is different. It is the school administrator who must decide how these specialists and agencies can be used to best advantage in the education of the exceptional child.

National and State Programs

Some national organizations have been at work to secure enactment of federal legislation that would provide financial aid to the states for the education of physically handicapped children. During the hearings before the Committee on Education and Labor of the United States Senate (30) on a bill designed to bring this about, it was pointed out that, since the federal government under the Social Security Act is already providing federal aid for the support of dependent children, medical service for crippled children, and vocational rehabilitation for the disabled of employable age, federal aid should also be provided for the education of all types of physically handicapped children. This matter of federal aid for special education remains to date an unsolved problem in administration. Martens (19:36), in her discussion of this general subject, said that we have no national program for the education of exceptional children, "if by such a program is meant a closely knit organization directed by a central agency." She questioned whether such a program was really desirable. She favored a national program "characterized by a nationwide solidarity and coordination of purposes and activities, sponsored by national agencies and applied by every state of the Union in terms of its own needs and through its own administrative arrangements."

One of the most difficult problems in administration is the formulation and execution of a statewide program of special education that will meet the needs of all types of exceptional children. In discussing such state programs Martens (20, 21) said that today every state makes some provision for the education of its blind and deaf children either in residential schools of its own or in the school of an adjacent state. Every state has residential training schools for delinquents committed to its care by the courts and all but three states make some provision for the institutional care of the feeble-minded. Sixteen states have one or more persons on the

staffs of their educational departments who supervise the education of exceptional children on a statewide basis. Some states also are incorporating the state residential schools into the public-school systems of the state.

In the matter of state educational programs for exceptional children, Powell (26) held that such a program should be an integrated part of the general state educational program and should make provision for all kinds of deviates. Ade (1:v), in describing Pennsylvania's state program of special education, said: "It aims to promote an appreciation of the fundamental principle that the public schools are organized and maintained for the benefit of the child, and to eradicate as rapidly as possible that uniformity of educational procedure that ignores in large measure, mental, physical, and personality differences in children."

The "Youth Correction Authority Act" (4:1) was drawn up and adopted by the American Law Institute. It is a model act, the purpose of which "is to protect society more effectively by substituting for retributive punishment methods of training and treatment directed toward the correction and rehabilitation of young persons found guilty of violation of law." The American Law Institute seeks through this Act to secure more effective individualization of treatment and training of youthful offenders.

A City Program

In describing the organization of a city program for the education of exceptional children, Ingram (18:44) said that there are four requisites for a successful program: "First, school health and child study services for individual pupil problems; second, competent administrative or supervisory leadership; third, competent special education teachers; and fourth, a sympathetic and understanding community." The usual and most popular way of providing special education for all types of exceptional children in large city school systems has been by means of the special class or special school. This method of meeting the needs of the exceptional child has been popular because it does not necessarily require any change in the regular grade organization of the traditional school; the special class usually is set up as another class unit in the school. In considering the type of organization best suited to meet the needs of the problem child, Postel (25) took the position that the special school is superior to the special class in that it makes possible better classification, offers a wider variety of activities, has a more elastic organization, is less likely to stigmatize the child, makes it easier to secure psychiatric, psychological, and visiting teacher service, and provides better opportunities for research.

Hill (17:22) also held that the special school has certain advantages. "The advantages for direction and supervision are apparent. The association of teachers of various types of classes for physically handicapped children has undoubtedly created a spirit of cooperation among them and a more intense desire to further the cause of special education." Martin (23:224), while admitting that the special school may be superior in some respects to the special class or classes in the regular school, stated that if

adequate equipment and well-trained teachers were provided, few educators would champion special schools for the major types of exceptional children.

Thompson (29) thought that we had gone somewhat too far in setting up special schools and classes for crippled children who could with proper planning and supervision adjust to better advantage in regular grades with physically normal children. He explained how clinics for periodic examination of crippled children could be held on Saturdays; physiotherapy where needed could be given after school hours at established health centers; and corrective exercises for the average child could be supervised by intelligent parents and teachers. He said that the schools of Maryland, with the exception of Baltimore, had abandoned special classes for crippled children and had inaugurated a suitable program in the regular grades to the satisfaction of children, parents, doctors, and all others concerned. His plan required special transportation and specially constructed desks where needed, and a program of teacher-training designed to prepare the regular classroom teacher to train the handicapped children. To provide special education for the crippled child without special classes or special schools entails some marked changes in the procedures of the grade school.

The Chicago public-school system which, like other large city school systems, has long had both special schools and special classes for handicapped children is now attempting to meet the needs of the less seriously handicapped children in the elementary schools by means of the adjustment service. This adjustment service was begun in ten elementary schools in 1936, and in 1939 (9:264) it was operating in 325 of the 332 elementary schools. The adjustment teacher, who works under the immediate direction of the principal, gives tests, assists the principal in the interpretation of results and in the selection of children who require differential treatment, helps prepare individualized work materials, and coaches the more difficult cases. The fact that the adjustment service has been extended to all but seven of Chicago's 332 elementary schools is some indication of its value.

The United States Office of Education (10) reported that the number of children enrolled in special schools and classes for socially maladjusted children and for gifted children was actually less in 1936 than in 1934, and that the number of delicate children in special schools and classes in 1936, although larger than in 1934, was smaller than in 1932. This seems to indicate that the regular school in the large city is being modified to some extent, so that it is using other ways and means, as well as special schools and classes, to meet the needs of the exceptional child. Strachan (28:63), for example, in discussing ways of caring for delicate children said that "every school should provide for rest and extra feeding, but that it is by no means necessary for special classes to be set up in the school system to meet the needs of these children."

Arbuckle (6) described how Detroit provides special education for children with unusual ability in the visual arts by means of classes which meet after school. One class for the most exceptional children is held each Saturday morning in the Detroit Institute of Arts. Bear (7:121) stated that St.

Louis does not separate bright pupils into special schools or classes. "The St. Louis Schools," she said, "operate on the theory that the capacity for leadership and social service of such pupils can be developed best by keeping them with others of the same grade and age."

Martin (22) sent questionnaires to 30 school systems listed by the Office of Education as reporting special classes for gifted children. Only 15 of the 26 which replied indicated that they had special classes at the time. Some reported that the classes had been discontinued due to the depression, and others that they made a practice of sectioning pupils on the basis of ability but did not provide special classes.

A Rural Program

Berry (8) reported that in cities of 100,000 and over the number of children enrolled in special classes and special schools for all types of exceptional children was equal to about 4 percent of the total public-school enrolment; that in cities of 10,000 to 99,999, it was less than 2 percent; and in cities under 10,000, in villages and rural school districts, it was but a small fraction of 1 percent. He suggested that the large cities had made greater progress in special education than the smaller communities and rural districts not merely because of greater per capita wealth, better trained teachers and administrators, greater centralization of school population, superior means of publicity, and a larger number of agencies interested in handicapped children, but also because the special class or special school has been conceived as the only means of providing special education. Heffernan (16) reported that in two counties in California, supervisors were employed particularly for work with exceptional children. In these counties a pioneer program was being developed. Early discovery and adjustment of minor handicaps were emphasized to prevent later more serious maladjustments.

The Province of Ontario, Canada, according to Amoss (5:73), "adopted the plan of treating the handicapped children as a special educational unit in his own environment. After a period of experimentation, provision was finally made for the organization of units of several kinds." Under the "unit-plan," subjectmatter and methods of instruction are adapted to the needs of the handicapped child without segregation. He is taught by the regular grade or rural teacher under the direction of the supervisor. Cost of special equipment, supplies, and transportation where necessary is borne in part by the provincial department of education.

Conclusions

In the light of this review of recent reports and investigations which bear directly or indirectly on problems of philosophy and administration in special education it is evident:

1. That changes in the social order have influenced our interpretation of "equality of opportunity."
2. That "equality of opportunity" today is being interpreted in such a way as to give a new meaning to individual differences.

3. That in view of the rapid and unexpected change in world affairs we can expect that the interpretation of "equality of opportunity" will continue to change.

4. That the present interpretation of "equality of educational opportunity" has created many new problems in administration.

5. That until these important administrative problems are solved the special class or the special school will continue to be the prevailing, and in most school systems the only, means of providing special education for the exceptional child.

6. That marked progress is being made in the solution of those administrative problems involved in transforming the traditional grade school into a child-centered school in which special education becomes an integral part of the school program.

Needed Research

Many areas need to be investigated through scientific research directed toward improvement of the total educational process. A general discussion of the kinds of questions which research should seek to answer and the types of research called for, in the field of special education, was presented by Scates (27). Among the specific problems which call for attention are:

1. Development of methods to promote in the exceptional child a greater sense of responsibility to the group. At present the emphasis is almost wholly on the group's responsibility to the child. The "Declaration of Interdependence" (3:12-13) formulated by the American Association of School Administrators might well serve as a starting point.

2. Determination of the best form of state aid for the education of all types of exceptional children. At present state legislation lacks certain essential standardization. The formulation of a model act by the various national organizations interested in the exceptional child in cooperation with the Office of Education would have a far-reaching influence.

3. Designation of the types of exceptional children who can be best educated in special classes or special schools.

4. Experimentation under controlled conditions to determine how successfully the less seriously handicapped children can be taught with children who are not handicapped.

5. Determination of a way of democratic living that will insure the acceptance of the handicapped child by children who are not handicapped.

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CHAPTER II

The Mentally Handicapped¹

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THE FACT THAT SPECIAL PROVISIONS for mentally handicapped children in the public schools exceed those for any other handicapped group, and that greater aversion exists toward mental defect than toward physical defect, makes mental deficiency a field in which there are many vital problems. Heck reported in the REVIEW OF EDUCATIONAL RESEARCH for June 1933 that he found the literature extensive and research dealing with mental defectives "vast." Since that time much more has been published. This chapter will report primarily that which has happened during the past five years.

The literature has shown considerable lack of agreement in the terms used. Almost any degree of mental handicap was found described by the phrases feeble-minded, mentally defective, mentally deficient, mentally handicapped, subnormal, mentally retarded, mentally inadequate, and slow-learning. This variation in vocabulary has become greater as the school life of the mentally handicapped child has lengthened, because of better enforcement of attendance laws and changing economic conditions. It is difficult to make generalizations from such research as there is, or to use results intelligently, without common agreement in the definition of terms.

Historical Development of Education for the Mentally Handicapped

Frampton (28), Grave (31), Heck (34), and Kuhlmann (51) have given the history of the training of mentally handicapped children. The growth of special education for mentally deficient children in Connecticut (15) was described by members of the state association of special class teachers. Pritchard (82) presented developments of the last twenty-five years in which Leta Hollingworth was influential.

Identification and Selection for Special Education

Criteria for Identifying the Mentally Handicapped—It is not surprising to find emphasis upon the IQ for identification when Hollingworth, Terman, and Oden (40:53) have said: "Feeble-mindedness is, as in the decade of the 1920's, still defined in terms of IQ and of centile status. For practical purposes persons who test below 70 IQ are called 'feeble-minded'. . . . In New York State in 1930, school regulations specified 75 IQ, instead of 70 IQ, as a minimum for placement in ungraded classes for mental defectives." On the other hand, many articles on definitions, criteria of mental deficiency, and standards for admission to special classes have stressed the

¹ Bibliography for this chapter begins on page 271.

necessity of considering the whole picture of the individual before diagnosis or treatment. An excellent statement was made by Doll (22), giving the historical background of criteria, definitions adopted by the 1930 White House Conference, and deprecating the use of the IQ alone as indicating mental deficiency. He stated the significant criteria as social, mental, developmental, educational, and somatic.

Pilcher (78), Thompson and Edwards (94), Wilcox (104), and Yepsen (107) presented evidence that each child is an individual, that there are wide variations within the group classed as deviates, and that expert help is needed by the teacher where children are thought to be mentally deficient. McGehee (65) showed the need of expert help in an analysis of 7,986 elementary-school children from 455 schools when he found that teachers were influenced by personality characteristics and academic achievement in judging mental retardation. Twenty-four percent of those designated as extremely retarded by teachers had IQ's above 90.

Use of the Binet Scale—The Stanford-Binet Scale has been extensively used as one means of identification of mental level, often as the only means. The Terman-Merrill Revision of the Stanford-Binet Scale has been used since its publication in 1937 to replace or supplement the earlier Stanford-Binet. The authors stated (93:51) that the old scale "yields mental ages slightly too high at the younger ages and somewhat too low at the older levels." Research has been published by Merrill (68), Hildreth (38), and Davis (18), comparing mental ages and IQ's on the new and the old scales. Rheingold and Perce (83:110, 115, 116) were particularly concerned with discrepancies which might occur around the IQ rating of 70. They reported that there was a "small but definite tendency for Form L IQ to be higher for cases with IQ's from 80-82." This is contrary to the reports from Merrill, who found that IQ's below 90 were lower on the revised scale.

The "constancy" of the IQ—The controversy over the variation of IQ's in the same individual and the publicity given to it have made caution in the use of the IQ most important. The literature has presented instances of IQ's changing from a classification of normality to feeble-mindedness and vice versa. Various points of view concerning the "constancy" or variability of the IQ were given in the Thirty-Ninth Yearbook of the National Society for the Study of Education (72). Critical reviews of the research were presented by McNemar (66), Thorndike (95), and by Wellman, Skeels, and Skodak (102). Wallin (98) tested two sisters semiannually from the ages of three to sixteen and seventeen, respectively. The results yielded fluctuations in IQ ratings and gave emphasis to the fact that the IQ is only one factor in mental diagnosis. Certain studies have suggested that a low IQ on an early examination may be due to various causal factors. Strauss (89) has discussed exogenous and endogenous types of mental deficiency distinguished by causation. Strauss and Kephart (90:142) studied changes in IQ in the constant environment of the institution, analyzing them according to type. Studying unclassified groups and a group classified according to type, they stated: "It seems possible that much of the confusion in results

among previous studies of the variability in IQ may be due to unrecognized factors in the selection of the groups which change the proportion among these types from group to group."

Social maturity as a criterion—Doll's annotated bibliography (19) listed sixty-six published and unpublished reports of the use of the Vineland Social Maturity Scale as the criterion for identification of the mentally deficient. Bradway (12) in a study of three hundred individuals found this scale a means of discriminating between the feeble-minded who by definition lack social competence and the intellectual subnormal whose mental retardation is not accompanied by social incompetence. Doll and McKay (23) studied the relative social superiority of special class children compared with institutional children of the same sex, chronological age, and mental age.

Nonverbal Abilities in Identifying the Mentally Handicapped

Several studies in the field of nonverbal tests have been made to try to discover in those individuals who are mentally handicapped some abilities which are less dependent upon the comprehension and use of language. Bijou (9) indicated the necessity of giving at least one performance and one verbal test in determining feeble-mindedness.

Performance tests—Mitrano (69) tested 57 feeble-minded subjects with the Witmer formboard and the Stanford-Binet Scale. He found that scores on the Witmer test, when first administered, tended to be higher than scores on the Binet Scale, and to be progressively higher upon readministration. Werner and Strauss (103) gave a battery of tests in the differentiation of the fingers. They found that children with arithmetic disability revealed a specific disturbance in performing these tests. They concluded that functional analysis rather than achievement tests should serve as a guide for remedial work. Abel (2) found that those girls showing a performance on Goodenough Drawing, Knox Cubes, Pintner Non-Language, and designs from the Army Performance Scale which was higher than their performance on tests requiring language skill were successful in hand sewing and garment operating. In another study, Hamlin and Abel (32) gave seventeen tests of intelligence to a group of twenty girls successful in weaving and a group of ten who were not successful. The only tests differentiating the successful weavers were the Seguin, Ferguson, Knox Cubes, and Healy A.

Mechanical ability tests—The constructive ability of 150 subnormal children was tested by McElwee (64) through the use of a jigsaw puzzle. Ability was found to increase with chronological age in children of the same mental levels. Frandsen (29) studied mechanical ability in one hundred moron boys who were given the Minnesota Mechanical Assembly Test. The mean percentile score of 16 indicated the mechanical inferiority of the group. However, the distribution, overlapping that of the normal population, indicated that certain mentally handicapped individuals might well be trained to capitalize their mechanical ability. Pritchard (81) tested seventy-nine boys with chronological ages of twelve years and one month

to eighteen years, mental ages from 8-2 to 14-3. She found that the correlations between mechanical tests and IQ and mental age were very slight. She recommended that training in other fields be given to those not having mechanical intelligence and that those of inferior abstract intelligence having mechanical ability should be discovered and given special training.

Drawing tests—Abel and Sill (3) administered to more than four hundred children and adolescents, one a group of normal children (IQ 80-130) and the other a group of subnormal intelligence (IQ 50-79), a test in which they were told to divide a four-inch square on paper into squares. There were qualitative and quantitative differences between the two groups and there was some overlapping in their performances. Spoerl (86) found a marked tendency for children in special classes to draw above the level to be expected from the mental ages. She also found scores on the Goodenough Scale higher than those made by normal children of like mental ages. Other reports on the results of the Goodenough Scale agreed with this finding.

Provisions for Special Education

City school systems—The latest printed summary of statistics from the United States Office of Education (27:10) was for the school year 1935-1936. Six hundred and forty-three cities in 43 states reported an enrolment of 99,621 mentally deficient pupils in special classes. Although this was the largest number ever reported, a conservative estimate of the number needing special provisions was 500,000. There were 4,871 teachers of special classes in eighty-one cities. In addition to this report, there have been several excellent statements of the development of special classes, the number of children cared for, and the program of special education offered by specific cities and states, such as Richmond (10), Minneapolis (13), New York City (41, 101), and New York State (74). These reports indicated that special education has moved steadily forward, even during depression years.

The elementary years—There have been some statements of objection to the segregation of mentally defective children in special schools and classes (24). Administrators in general education and in the field of special education have responded to these objections by stating the reasons why special classes seem necessary (8, 63). The kind of organization described in many cities provides for making the special class an integral part of the school. There has been marked development away from the single special class where children with wide range in ages and in degrees of retardation are placed. The organization of primary, intermediate, and advanced groups in several cities has been described (6, 8, 30, 34).

The secondary years—There have been many descriptions of provisions for admitting mentally retarded children to the junior or senior high school at the ages of thirteen or fourteen (10, 13, 70, 97, 101). In most instances the program was so organized that the pupils had academic work

part of the day with an especially trained teacher. Other classes and activities, such as handwork and physical education, were planned with regular teachers. Central schools or special classes for the older mentally deficient children were reported by some (6, 105).

Rural areas—Amoss described a survey of rural areas and provisions made wherever exceptionally backward children were found (4). Layman (54) compared the effectiveness of rural and graded school systems in meeting the needs of mentally retarded children. She studied 510 children (IQ 50-79), 360 in small-town graded schools and 150 in one-room rural schools, and compared them on the basis of social and economic status, problems presented, general adjustment, and educational achievement. The social and economic status of both groups was low. The rural children made better social and educational adjustments than the town children. They were more readily accepted as members of their social group. Their oral reading and arithmetic computation scores reached or exceeded their mental ages to a greater extent.

Residential schools—Every state, except Arizona, Arkansas, and Nevada, has at least one public residential institution for the mentally deficient. An enrolment of 21,889 pupils doing schoolwork in 130 schools was reported by Martens (62). The school program, experience units, creative expression, physical education and recreation, psychological service and research, occupational experiences, and relationship to the state educational program were among the topics considered in Martens' report. She indicated that a close relationship between these schools and the day schools needs to be developed. The needs for research were enumerated.

Foster-home placement—Less than 90 percent of all the feeble-minded ever receive institutional care (21). There is not room for them in existing institutions and many remain in the community where they live in a natural and congenial environment at less cost to the community, if adequate supervision is provided. The features of foster-home care, the social status of foster families, and evidence of the success of the plan were presented by Doll (20, 21), Kuenzel (50), and Pollock (79). The implications of this practice for public-school training must be considered if it is adopted on a wide scale. A study of 1,000 cases of feeble-minded children at Letchworth Village (42) raised the question as to whether the community was taking all the responsibility it should or whether the state and community welfare agencies could cooperate for better methods of social control.

Low-grade children—In New York City, in 1937-1938, thirty-two classes enrolled 550 pupils with IQ's below 50. There were four hundred on the waiting lists and 136 who were examined and found ineligible for any school placement (41, 101). Newland (75) studied the records of the first three hundred cases excluded from day school by authority of the state department of public instruction in Pennsylvania. There were 51 cases for whom no mental ages could be determined. The median mental ages of the remaining 249 were 4-10 on the Terman-Merrill Revision and 4-3 on

the Stanford Revision of the Binet Scale. The median IQ was 41. The ratio of boys to girls was 3:2. Wallin (98), from his experience with differences in children, urged that the IQ should not be overemphasized, that all children should have a trial in school before exclusion on the basis of a low IQ, and also before being placed in a residential school. An article by Johnstone (43) called attention to the possibility of training the latent abilities of the low-grade mentally defective. In Massachusetts (76) home training lessons have been planned for children with mental ages under two, from two to four years, and from four to six years, who have been refused admission to school or excluded. Fifty-five children were reported as receiving this home training from parents or social workers. The working materials have been supplied. Better adjustment at home and in the neighborhood, better understanding on the part of the parent, and in some cases postponement of placement in institutions has resulted.

Curriculum Adjustment

Descriptive studies—Certain studies have been made which help the teacher in planning the curriculum for mentally retarded children. The sixth edition of Tredgold's textbook (96) provided general information for understanding the problems of the mentally retarded. Lewis and McGehee (56) made a comparison of the interests of 9,000 mentally retarded and mentally superior children. The teachers were asked to check the participation of each pupil on a list of ten extracurriculum activities and to designate the hobbies for each child on a list of twenty-one hobbies. The findings indicated that there was a paucity of interests as well as low mentality to overcome in retarded children. The authors noted that retarded children were handicapped in any learning situation but less so when education emphasized activity and manual phases and minimized academic aspects. Hankins (33) discussed thirty basic principles underlying progressive practice in teaching exceptional children. Hill (39) presented the psychological basis for methods in teaching pupils of different ability levels.

Mental hygiene—Laycock (53) stated the mental hygiene needs of exceptional children and pointed out that they were similar to those of other children. Farson (26) and Kephart (48) described methods found useful in helping to develop self-reliance and self-respect. Tallman (92) discussed problems of maladjustment and the values of the conference method in making plans to meet these problems.

Activity program—Most recent references to the organization of the curriculum in special education were made by Heck (34), Garrison (30), Frampton (28), and by the state department of public instruction in Pennsylvania (77). All these references have shown the present point of view in education, that the child's school life should be an integrated purposive experience related to his needs and interests. Many articles, such as those by Beaman (7) and Grave (31), described the advantages of an activity program, the development of good work habits, desirable charac-

ter traits, and the opportunities for satisfaction, happiness, and success, with resulting better social adjustment. Scheck (84) reported an informal inquiry sent to one hundred teachers of mentally defective boys in residential schools. The questions were answered by 58 teachers from twenty schools; 6 used activity teaching entirely, 16 usually, 31 occasionally, 5 never. Mahoney and Harshman (59) compared two groups studying transportation. All the objective evidence indicated the positive value of using sound films as a means of instruction. A noticeable improvement in interest, attendance, and ability in self-expression resulted.

Teaching reading—Much work has been done in teaching reading to slow children. Kirk (49) described and applied research in reading. Hegge (37) also reported extensive work in this field and urged a prolonged prereading program. Stock (87) called attention to the fact that the length of time one must wait for reading readiness in mentally handicapped children makes the finding of suitable activities for development difficult. Melchel (67) analyzed a prolonged pre-academic program for fifty-eight children in an institution. The study showed that the children chiefly lacked knowledge of their environment. They improved during training but did not reach a level expected for first-grade work until they had reached a mental age of eight. Coleman (14) and Sears (85) emphasized the necessity for diagnosis. Kirk (49), Potter (80), and Walsh (100) urged the use of children's interests and suitable reading materials. In nearly all studies the emotional problems and the discouragement involved in poor reading were emphasized, together with the necessity for building up self-confidence and providing for success. The reports of MacIntyre (58), Ewerhardt (25), and Strang (88) may be cited as examples of such conclusions.

Progress of Pupils

Nemzek and Meixner (73) studied the grade levels on the Stanford Achievement Test of 326 subnormal pupils in Detroit special classes over a period of four years. The yearly gain on the dictation test was approximately one-third of a grade, and in reading, roughly two-fifths of a grade. The yearly changes in arithmetic were very irregular. The average yearly change for the three subjects was two-fifths of a grade. Bradway (11) found that the mean ages of 53 mentally retarded pupils on sections of the Stanford Achievement Tests equaled or exceeded by one or two years their mean mental ages. Twenty-five public-school pupils in the fourth grade showed similar tendencies. During training periods at the Devereux School, twenty-five mentally retarded subjects made an average of approximately one-half year's improvement per year in spelling, reading comprehension, and arithmetic reasoning, while there was approximately two-thirds of a year's improvement per year in word meaning and arithmetic computation.

Evaluation—Evaluation of the results of curriculum adjustment in special education is much desired and fraught with difficulties. Previous issues of the REVIEW (35, 55) have discussed studies of the comparison

of special-class children matched with similar children in the regular grades, by Bennett, Wassman, Pertsch, and Engel. Pertsch used the Modern Achievement Tests, Maller Character Sketches, and Detroit Tests of Mechanical Ability as means of evaluation. He concluded that the academic achievement of the nonsegregated group was somewhat superior; that the unsegregated boys and the special-class girls made greater gains in mechanical ability and personality traits. Cowen (17:27) made the following analysis of the Pertsch thesis: (a) the retesting took place after a five months' interval, and the IQ's of the pupils led to an expectation of only $2\frac{1}{2}$ to $3\frac{3}{4}$ months gain in that period; (b) the matching was necessarily bad, because the pupils in special classes had been so placed because of their poorer adjustment; (c) Pertsch interpreted his findings to indicate relatively greater progress on the part of the graded group in reading and arithmetic computation. Cowen, therefore, calculated the percent of mean gain in test scores from the initial to the final testing on the achievement tests. The results showed larger percents of gain in mean score for the special-class group in reading comprehension, reading speed, and arithmetic problems. "Thus, it is possible to use Pertsch's own data to reverse his findings." Cowen concluded that the material presented by Pertsch was not adequate evidence for or against the special class.

Occupational Preparation and Placement

School provisions—Martens' report (60) of inquiries sent to sixty cities to determine progressive trends in occupational preparation was the main contribution in this field. There were forty-three replies, indicating provisions for 29,811 adolescents in special schools or classes. Forty-eight percent from twenty-nine cities were located in elementary schools; 13 percent from eleven cities in regular junior high schools; 3 percent from eight cities in regular high schools; 10 percent from eleven cities in special schools for pupils of high-school age only; 20 percent from seventeen cities in special schools for pupils of both elementary- and high-school age; and 6 percent were unclassified. Jones (44) described occupational adjustment for mentally deficient boys in Chicago. The records of each child were studied and he was given the Porteus Maze, Ferguson, Kohs Block, Otis Mental, and National Intelligence tests in an attempt to discover special abilities. Several hundred projects in the shops were available for discovery of capacities and for training. The occupational program in an institution for the high-grade mentally defective child was described by Sullivan (91).

Follow-up studies—A bibliography of follow-up studies was given in "Meeting the Needs of the Mentally Retarded," issued by the Pennsylvania State Department of Public Instruction (77). Most of these studies, except the ones on measurement of social competence, were published before 1935. Martens (60) found little being done in placement or follow-up. Only five of the forty-three cities reported in her study of occupational preparation gave follow-up services. Woods (106) quoted a study showing

that numbers of women with mental ages of eight and nine were supporting themselves, and sometimes their families, at power-machine work. Abel (1) made a study of eighty-four girls selected at random from a large group in adjustment classes for girls between fifteen and sixteen unable to complete elementary school. Many of these girls were subnormal. Fifty-five percent of the group studied were capable of successful and steady employment in industry. A composite list of factories and occupations employing subnormal persons was prepared by Cowen (16). Murphy (71) reported a study of ten children having IQ's of 64-87 when examined from five to fifteen years earlier. Seven were living with their parents, three were wards of social agencies; two boys were working, a third had worked a year previously, two were socially ineffective; two girls were married, another was irregularly employed but self-sufficient, one helped around the house, and one was in an institution. Keator (47) reported a commission in Hartford supervising special-class children after they left school at sixteen years of age. During the month of January 1936, sixty-one mentally inferior youths earned \$2,442.70. This was the month in which the largest amount was reported. From the year ending April 1, 1936, an unspecified number earned \$16,279.73. Housework and farming did not appeal to the youths; they were seeking jobs in factory, store, and laundry. Rural communities and small towns were fairly hospitable to the special-class graduates but the large centers of population were discouraging, if not actually hostile.

An outstanding follow-up study was made by Baller (5). He compared 206 individuals who were in special classes in Lincoln, Nebraska, nine years previously, with 200 others, matched for age and sex, but with IQ's of 100-120 on a group intelligence test. His results agreed with those of other investigators in finding the records of previous special-class pupils better than the prognosis indicated. Twenty-seven percent were wholly, and 57 percent partially, self-supporting. Sixty-one percent were unable to remain steadily employed. Their employment was mainly manual labor with frequent change of jobs. The depression had a greater effect upon their employment than upon that of the normal individual. Antisocial conduct in the subnormal group was more frequent but was not out of proportion to the environment. Sixty-eight percent of those who were not in institutions for the feeble-minded were law-abiding, while fully half of those with records of violation of the law had no additional record. The special class group was economically, socially, and vocationally inferior. They moved more frequently but in a more restricted area; their homes were economically and socially poorer; the death-rate was seven times as great as for normal groups; the marriage rate was lower but the divorce rates about the same. There were two statistically significant differences—subnormal persons had larger families and subnormal women married at a much younger age. Personal appearance and training along homemaking lines seemed to correlate highest with good social adjustment in women. In men, the factors related to success were intelligence and number of years in school.

The Training of Teachers

In a survey of opportunities for preparation of teachers, Martens (61) showed that thirty-six institutions offered teacher-education for mentally handicapped children. New York and Pennsylvania were the two states having the largest number of schools offering such courses. A detailed description of the offerings by states and institutions was given. The training required of special-class teachers in Michigan was outlined (46) and a description was given of the new Horace H. Rackham School of Special Education, which is a part of the Michigan State Normal College in Ypsilanti and is housed in a building erected especially for the training of teachers of handicapped children (45). Wallin (99) and Lloyd-Jones (57) discussed problems and trends in teacher training, and Laycock (52) enumerated the mental health qualifications for special-class teachers.

Summary of Research in the Field

The history of this period of rapidly changing concepts and practices has been well recorded in the research studies of the past five or ten years. The United States Office of Education has made valuable contributions relating to developments throughout the nation. The Terman-Merrill Revision of the Stanford-Binet Scale and the Vineland Social Maturity Scale have provided added technics for the study and identification of mentally handicapped children. Several studies have indicated that many mentally handicapped children show good performance on nonverbal tests. Newland's study of children excluded from school and the provisions made for home training of children in Massachusetts point the way to further investigation and provisions for low-grade cases. Good work has been done in studying methods of teaching reading to mentally handicapped children. The publication of Kirk's book made much research available in this field. Experience units with their results in changed attitudes and increased achievement have been described. The experiment in the use of sound films is one of the best examples of this type. The follow-up studies which have been made, such as Baller's comparison of special class graduates and normal individuals, have much value.

Needs for Further Research

The most vital need is agreement upon classifications and definitions of terms. Existing classifications and definitions should be accepted or better ones evolved for professional use. Until some uniform nomenclature is evolved, individual research projects cannot be used to gather a more accurate body of facts. Recent experiments in the variability of IQ's throw into strong focus the need for research in the retesting of individuals by well-trained personnel. Better case-study technics and more adequate basis for early discovery of mentally handicapped children are other avenues of approach that should be followed. There is room for study of characteristics of mentally handicapped children, their limitations and potentialities, and the evolution of the best curriculums for their development.

The problems of segregation need objective study. Adequate technics of evaluation are yet to be developed and great care should be used in comparisons that are made between special-class and nonspecial-class children. If an adequate job of training mentally handicapped children is to be done, many more trained teachers are needed. Experiments with nonverbal tests indicate that the teachers need good training in ways of discovering special abilities and planning for maximum development where such abilities are found. The whole field of adequate training for adolescents on the secondary-school level is a pertinent subject for research. Throughout the country, mentally handicapped youth are being sent to junior and senior high schools. Thus far there is no compilation of data for any large number of communities showing numbers of pupils so placed, the types of organization and curriculums used, and the effect upon the pupils. The literature in this field is difficult to interpret because of the extent to which similar provisions are made for dull-normal pupils.

Many more follow-up studies made under changing economic and social conditions are sorely needed to throw light on the organization and methods of education, the type of supervision or care needed in adult life, the kind of occupations currently available, and the preparation needed for them. To define other areas of research needed in this field would be to enumerate each of the headings under which research was reported and to add others, such as causation and prevention. A common vocabulary and a definite organization of research activities might show considerable result in the understanding of mentally handicapped children and the evolution of better educational procedures to meet their needs.

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CHAPTER III

The Mentally Gifted¹

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THE PERIOD COVERED IN THIS CHAPTER has been made somewhat greater chronologically than is customary in the REVIEW because there were some earlier studies deserving mention that were not cited in the December 1936 issue of the REVIEW, which contained a brief reference to intellectually superior students. All the studies covered in this chapter however have been published since January 1930. The term "mentally gifted" has intentionally been interpreted broadly. Too great a restriction in the field would result in the overlooking of much worthwhile work that has been done on children of general scholastic superiority.

Identification and Description of Superior Children

Most of the literature dealing with the IQ controversy has been omitted from this review on the assumption that that material more properly belongs in those issues of the REVIEW pertaining to mental testing. Certain studies seem, however, to be directly relevant. Carroll and Hollingworth (8) pointed out the presence of a systematic error in Herring-Binet results on gifted children that would not warrant the use of such results as alternates of the Stanford-Binet. Lincoln (44) found that Cornell-Coxe performance quotients averaged higher than did Binet IQ's on superior children having Binet IQ's of 110 and up. MacMurray (47) compared Stanford-Binet with Pintner-Patterson results on gifted and dull-normal children. Nemzek (60) studied the constancy of the IQ's of a superior group, found a greater variability than in an unselected population, and found the retest results to average higher than original results, suggesting practice effects over the one-year intervals. Cattell (9) endeavored to ascertain the reasons for the differences between test-retest results in the Harvard Growth Study and some Stanford cases, suggesting the possibility of the method of selection of the cases used. Lincoln (42, 43) found retest Stanford-Binet IQ's lower than earlier results, although the decrease was not great.

That the gifted child can be identified on the basis of certain behavior signs and trends as well as by the results of the usual standardized tests was suggested by Hildreth (26), as a result of her study of fifty superior (median IQ, 136) young (median CA, 5.5) children in a private school paired with fifty average (median IQ, 103) children. Witty (84) pointed out that judgment as to superiority should not be based solely upon the intelligence quotient. On the basis of 27,642 cases group-tested at the secondary level (87) he found an equal number of superior boys and

¹ Bibliography for this chapter begins on page 283.

girls, as contrasted with the ratio of two boys to each girl reported by Terman and Burks. He also reported on the play activities of gifted children (86). On the basis of a study of twenty boys and twenty girls having an average chronological age of seventeen years and six months and a mean IQ of 152, he found essentially the same characteristics as other investigators had reported, with the possible exception of the fact that his cases showed comparatively little interest in books dealing with the fine arts, music, and drama (90).

Hollingworth (28), characterizing stature by means of a ratio between the child's stature and that of appropriate norms for race, sex, and age, found, in the case of forty-seven children having Binet IQ's of 135 or above, and having at the start of the six-year study chronological ages between seven and nine years, that the children ran consistently 5 percent taller as a group. She also found a mixed group of adolescents (median IQ, 152) to be judged highly attractive by adults (27).

Case and Small-Group Intensive Studies

Fortunately, not all studies of gifted or superior children have been made in terms of averages. Illustrative case studies, since Terman's 1926 volume, are those by Elwood (16), Goldberg (21), McElwee (50), Rockwell (67), and Warner (76). Witty's 1930 study of 100 gifted children (88) was followed by a number of unpublished theses and dissertations based upon from 33 to 95 cases. Typical of these are the ones by Beck (3), Mayer (49), who paid particular attention to parental attitudes, Parsons (63), Reed (64), and Wetherbee (78). Simmons (69) studied the behavior of high IQ children in situations involving suggestion, and Coy (11) made an analysis of the reports of the daily programs of 30 nine-, ten-, and eleven-year-olds who were doing seventh-grade work in a special class.

Follow-Up Studies

The later performance of children considered to be superior or gifted appears to be consistently above-average accomplishment, although there is some evidence of regression. Hall (24) made a follow-up study after ten years on 120 children. Hollingworth and Kaunitz (29) found that, of the original group of 116 children who were above the top percentile point, 82 percent remained there after ten years. Witty's (85) ten-year follow-up of a group of 50 children with a median IQ of 153, showed sustained superiority in physical condition, and in school and home adjustment in spite of inadequate school stimulation for them, and a "versatility and vitality of interest." Terman and Oden's reports (72, 73) of the status of the original California gifted group sixteen years later, further corroborate the generalization. Educational implications of such long-time studies were pointed out by Terman (71). Lorge and Hollingworth (45) reported that high performance on adult-level tests were predictable

on the basis of high Binet IQ's, and suggested that special superiority (genius?) appeared to be predictable in those cases having Binet IQ's above 180. Rigg (66) endeavored to make a follow-up study of sixteen superior students, as shown by their performances on the National Intelligence Test and the Terman Group Test, but charged the inadequacy of his study to the mobility of our urban civilization.

Contrast Studies

Consistent with other lines of evidence concerning the ways in which superior children compare with dull children in generalization, amount and quality of work, Wilson (82, 83) reported on the basis of laboratory situations that the superior nine- and twelve-year-olds were more adept in applying a principle, were more accurate, and turned out more work even though they did make the same kinds of errors made by their dull equatees. The results of Carroll's study (7) on generalization in learning spelling agreed as far as the observation concerning generalization was concerned, but there were interesting differences in the 34,000 spelling errors made by the 100 bright and 100 dull children. Lazar (39), on the basis of her study of some 2000 ten-, eleven-, and twelve-year-old boys and girls in thirteen public schools in New York City, some 30 percent of whom were above 110 in IQ and a comparable percent below 90, reported essentially the same as has been reported by Terman, Witty, and others concerning the reading interests, activities, and opportunities of superior children.

Davidson (13) studied the outcomes of a four-and-one-half-month reading training program on a small group of three-, four-, and five-year-old children, each of whom had a mental age of four at the beginning of the study, and found a great superiority of the bright group in vocabulary, in speech, in eye movements, and in performance on the Pressey first-grade attainment scale. There was reported, however, an inverse relationship between gains in reading and in Binet IQ's. An interesting conclusion was drawn by Hutt (32) to the effect that pupils of the same mental age, whether bright or dull, tended to achieve equally in most school subjects, although discrepancies were found. Huber (31) concluded from his study of cases from the files of a college educational clinic that when each age level (ten, eleven, and fourteen) is taken separately, and the average, bright, and dull (Binet IQ groups of 96-105, 116-125, and 76-85, respectively) are compared with reference to each ability (Stanford Achievement Test performance in reading and arithmetic, auditory rote memory, and vocabulary on both the Stanford and Binet), no consistency was found as to which of the three IQ classifications was most variable. On a composite basis, however, the bright group showed a decided decrease in variability in performance as the chronological age increased. Blair (5, 6) reported a study of mentally superior and inferior children in junior and senior high-school situations. Superior boys and girls were found to prefer mathematics and English

respectively, while shop and home economics were preferred respectively by the slower boys and girls.

Educational Achievement of Superior Children

Studies of the educational performances of superior children have ranged from the very general to intensive study in particular subjectmatter areas. Regensburg (65) has reported on the educational success and failure of the superior; Lewis (41) made a study that was confined to the elementary level; and McGovney (52) investigated intensively the matter of spelling deficiency in mentally superior children. Miles (54) analyzed the achievements of a superior group of students in a four-year high school, while Lepowsky (40) went intensively into the improvement of superior pupils in first-term algebra. Bacon (2) compared the study habits of excellent and deficient high-school pupils and found that the superiority of the better group was not as marked as expected. An intensive study was made by Miller (55) of the college success of high-school graduates of exceptional ability. Those interested in the relationship between high school and college can profitably consider Jones' studies (34) of certain of these problems among superior students.

Extent and Types of Educational Provisions

According to the report of a New York state commission (68) not more than .3 percent of the gifted children of that state were provided for in the public schools. While the significance of this observation rests on the interpretation of what constitutes a provision for gifted children, the general import of the statement should give rise to serious thought. Two reports, by Lovett (46) and by the National Committee on Coordination in Secondary Education (59), have been made on the provisions for superior children at the secondary level. Bell (4) made a similar study at the elementary level in the state of New York; McKie (53), at the high-school level in southwestern Iowa; Odell (62), at both levels in Illinois; and Kramer (35) studied such practices in selected cities throughout the United States. Hall (23) developed a score sheet which might be used in rating a school's provisions for superior children. His four major categories of items on which ratings could be made were (a) the grades in which provisions were made, (b) the methods used in selecting the bright children, (c) factors affecting the organization—classes, teachers, equipment, and so forth, and (d) the extent to which and ways in which the curriculum was modified.

Acceleration—One type of educational adjustment made for mentally superior pupils has been that of acceleration. This may or may not include grade-skipping. Witty and Wilkins (91) reviewed the research and non-research literature pertaining to this administrative device and recommended its use. Moeser (57) wrote a master's thesis on 100 accelerated pupils in junior high school. The findings of Crowder (12), Engle (17, 18, 19), Herr (25), Lamson (37), Moore (58), Wester (77), and Wilkins

(79, 80, 81) support the generalization that moderate acceleration did not appear to be followed by poor educational adjustment at the secondary level. Engle found that the "double-promotion" group at the elementary level made higher salaries and belonged to more organizations as adults than did the slower groups. He pointed out that the accelerated group while in high school and college were not quite as active socially as their classmates, but he found that when comparisons were made on a chronological age basis, the contrasts practically disappeared. This is in partial agreement with certain of Herr's findings.

Enrichment—Using 170 pairs of pupils, equated for IQ, EQ, and EA, having IQ's of 110 upward and EQ's of 100 upward, and scattered among 38 classes, Dransfield (14) compared the achievements of superior pupils in enriched typical classroom programs with those in nonenriched typical classes. The experimental group showed superior achievement, particularly on the enrichment tests. Dransfield stated that the type of enrichment technic which he studied was administratively feasible in the typical classroom unit.

Special classes—Addicott (1) reported the achievement of a special class of 30 fourth-, fifth-, and sixth-graders having a median Binet IQ of 135. A gain of one year in arithmetic and reading was found to have taken place in a little less than a semester. Gray and Hollingworth (22) compared the Stanford Achievement Test results of a group of 56 special-class superior children with those of 36 regular-class superior children, all of whom had Binet IQ's of 130 or more. When tested after three years' experimentation, the achievement of the special-class group was superior regardless of the fact of segregation. Gates and Bond (20) reported on certain instructional outcomes of the Speyer School program. The superiority of an experimental, special-class, superior group (Binet IQ of 135 and above) over a paired control group, not only in academic achievement but also in school leadership, was reported by Lamson (36). In this study, the gifted were found to maintain their superiority throughout their high-school course.

Social and Emotional Adjustments

Studies of social and emotional adjustments have been made by Laycock (38), who contrasted the adjustments of superior and inferior school children; by Hollingworth and Rust (30), who administered the Bernreuter Personality Inventory to a group of superior adolescents; and by Thorndike (75), who administered the Pressey Interest-Attitude Test to 49 of the Speyer School gifted boys and girls. General superiority of the gifted was borne out, Thorndike finding that the Pressey scores corresponded more nearly to the children's mental ages than to their chronological ages. Clinical studies, both of a survey and of an intensive nature, were reported by Mateer (48), Neville (61), and Smith (70). An intensive study of the personality maladjustments of two mentally superior cases was made by Edwards (15). Miller (56) found greater social activity among superior

college students, as measured by membership and office holdings. Wilkins (81), on the basis of his study of 282 accelerated pupils ranging in chronological age from 15-5 to 16-11 and in mental age from 16-1 to 19-6, observed that the dangers attributed to acceleration were largely overestimated, as shown by the pupils' (a) scholastic interests, (b) vocational choices, and (c) participation in activities, as reported by the children and by their parents. The relationship of family and parental factors to the adjustments of superior pupils was studied by Conklin (10) and by McGehee and Lewis (51), the latter finding the attitudes on the part of parents of superior children superior to the attitudes on the part of parents of average, dull, and retarded children.

Studies of Superior Negro Children

Witty and Jenkins (89) reported the educational achievement of 26 elementary-school Negro children in Grades III to VIII. These children, having Binet IQ's of 140 and up, were found to be achieving, on the basis of Stanford Achievement Test results, on the average of 1.4 grades above their placements, and 3.3 grades above their chronological ages. The highest average educational quotients were in language usage, 147, and reading, 144, while the lowest average was in arithmetic, 127. Terwilliger (74) found twelve cases with IQ's above 125 in a total population of 7,552. The usual picture of general superiority to the rest of the group was reported. Jenkins (33), using as his criterion of mental superiority a Binet IQ of 120 and up, reported 103 cases out of 8,145 tested. The ratio of girls to boys was 233 to 100. Seventy-three percent of the superior group were Chicago-born. Other data on the nature of the superior group indicated general superiority.

Needed Research on Gifted Children

The increase during the past decade in the number of research studies in this field is most encouraging. Studies concerning this type of exceptional children have, like the bulk of those dealing with other types of children, utilized many of the devices and technics for evaluation that were most readily at hand, and the authors of the studies have concerned themselves with some of the simpler situations in which the superior children have been found. What has been learned as a result of these studies is, on the whole, manifestly worthwhile.

It is necessary, however, to push further into some of the more unwieldy, but nevertheless important, phases of problems attending the proper education of superior children. If one may judge by the greater failure on the part of the public elementary schools to identify and provide for their mentally superior children early in the elementary grades, as contrasted with the provisions at hand at the secondary level, some most valuable contributions could be made by showing objectively certain of the effects of the neglect of young superior children, particularly as regards the development of personality patterns, habits of creativeness, habits of in-

dustry, and greater social and educational achievement—this latter not to be conceived as narrowly as simple test abilities. It is possible that there are already in operation many valuable enrichment technics that could be applied more generally, once they have been objectively identified and evaluated. Such identification and evaluation are in themselves major problems of research, and may not easily lend themselves to solution by the determination of means, standard deviations, or critical ratios.

Another area of needed research is the determination and specific characterization of goals of social conduct and responsibility which should dominate the educational programs of superior children to a greater degree than for any other group. Such goals would include, for example, technics of taking responsibility in groups, technics of manipulating groups, technics of getting information (which we are beginning to recognize), and technics of keeping ever sensitive to the fact of group membership. Complementary to such research would be the development and evaluation of technics which would assist the group to work to greatest advantage with its leaders. Such studies should bring much more prominently into the picture the parts played by frequently overlooked attitudes and personality patterns.

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CHAPTER IV

The Socially Maladjusted¹

J. HAROLD WILLIAMS

THE SCOPE OF THE TOPIC for this chapter necessarily overlaps that of the chapter prepared by Bennett (6) for the December 1940 issue of the REVIEW, on problem children, delinquency, and treatment. The present treatise will therefore be restricted to studies published since 1935 which, with a single exception, are not found in Bennett's presentation. Moreover, this chapter will emphasize findings and procedures which are of special importance in planning for the education of socially maladjusted children in the schools.

General Sources of Literature

In addition to the treatment by Bennett (6) and the sources to which he refers, extensive bibliographies on various aspects of juvenile delinquency were offered by the United States Children's Bureau (72), Menefee and Chambers (48), and the Osborne Association (57). Dobbs (14) analyzed some of the concepts and trends appearing in outstanding literature in this field. Most of the bibliographies deal in part with educational aspects of the problem, especially in connection with the work of residential institutions. Heck (25a) in a general text, *The Education of Exceptional Children*, devoted one part to the education of the socially handicapped child. A fact that should be noted in connection with sources of literature is the discontinuance of the *Journal of Juvenile Research*, with the issue of July-October 1938. This periodical, published by the California Bureau of Juvenile Research, was the successor to the *Journal of Delinquency*, dating from 1916.

Symptoms of Social Maladjustment

Several studies dealing with diagnostic procedures and disclosing characteristic symptoms of social maladjustment in children are of significance for special education. Hildreth (26) constructed a personality and interest inventory applicable to pupils in the elementary schools, designed for use by teachers in interviewing problem children. Meyering (49) analyzed the maladjustment behavior manifestations of boys while camping. Most frequent were (in the younger groups) homesickness and infantile behavior; (in the older groups) tardiness and temper tantrums; (in both groups) indifference, unpopularity, and lying. Thorpe (69) listed some easily observable symptoms of incipient behavior difficulty. Kanner (33) reviewed pupils' problems under the main headings of undesirable habit formations, undesirable relations with others, and unsatisfactory scholastic performance. He warned against applying the rigid categories of mental

¹ Bibliography for this chapter begins on page 294.

disease to social maladjustments in children. Hackfield (23) discussed the relationship between neuropathic traits in children and the later development of neuropsychiatric diseases. A summary of case studies by Lippman (40) led to the conclusion that further analysis would reveal a stronger component of neurosis in delinquency than had been suspected.

Good (21) discussed the available information concerning the extent of maladjustment among children and presented an outline of thirteen areas for study in providing appropriate remedial treatment and instruction. A psychobiologic interpretation of juvenile delinquency was undertaken by Michaels (50), with the conclusion that "there is probably a special kind of psychosomatic disposition which permeates the delinquent individual, giving rise to specific individuations at the biological and psychological levels," and that "the delinquent, with his unique configuration, probably reacts as differently from either the neurotic and the psychotic as they react differently from each other."

Physical Factors and Adjustment

Inskip (29) summarized investigations dealing with physical factors related to personality maladjustment. Defects of hearing in relation to behavior problems were investigated by Molitch and Adams (54). Turner (70) found significant differences in eye, hand, and foot preferences of emotionally unstable adolescents and a control group of emotionally stable children. Endocrine disturbances in relation to social maladjustment in children were studied by Lurie (43), and Witty and Schacter (78). Molitch (53) found a slightly higher incidence of truancy among the endocrine cases in an institution group of boys than in those who were not so affected. Rosanoff, Handy, and Plesset (62), in an exhaustive study of twins, obtained evidence that both heredity and cerebral birth trauma play important parts in the causation of behavior disorders, and that the greater susceptibility of males to birth trauma accounts for the more frequent occurrence of delinquency in boys.

Mental Factors in Adjustment

The intelligence of institutionalized delinquent children was reviewed by Owen (58), who made a statistical summary of forty-three studies in this field. Mann and Mann (45) analyzed the results of Stanford-Binet retests of 428 juvenile delinquents, at intervals varying up to ten years, using Form L of the new revision. The mean change was but one IQ point for the total group, with individual differences ranging from zero to 30 points. This relative constancy was considered especially significant in view of the variety of treatment procedures to which members of the group had been subjected during the intervening period of five to ten years. In a delinquency area surveyed by Lichtenstein and Brown (39) the children were found to be fairly well placed in school according to chronological age, but were advanced beyond their mental ages. A downward trend in IQ occurred in successive age groups. In a group of behavior traits observed among boys in a camping situation, Meyering

(49) found indifference, lying, and sex behavior to be inversely related to intelligence. Michaels and Schilling (51) rated childrens' antisocial acts in order of seriousness and found no significant correlation between these and either mental age or IQ. Certain differences between delinquent and nondelinquent boys in superstitious beliefs were reported by Ter Keurst (68a). In a study by Hirsch (27), the interests of 600 maladjusted boys were found to be unrelated to their measured mental abilities but slightly related to their self-estimated abilities.

Social and Economic Factors in Adjustment

Studies continue to emphasize the relationship of home and community conditions to social maladjustment in children, and these are often of immediate concern to the school. Longmoor and Young (41) made a cartographic analysis of data in Long Beach, California, plotting cases of juvenile delinquency, public relief, and mobility for that urban area. Mobility and delinquency were found to be closely correlated. Smith (65) found a relationship between delinquency rates and distance of homes from urban communities in Kansas. Meyering (49) found that truancy in a camping situation was most prevalent among boys from the best homes, as rated on the Sims scale. Lander (38) developed a classification of "traumatic environment" in delinquent boys including such factors as parental rejection and parental incompatibility. An investigation of runaways by Riemer (60) revealed a symptom complex composed chiefly of three underlying forces: (a) need for love, (b) need for hostile aggression, and (c) need for increased self-esteem. In this psychiatric consideration the runaway displays an extremely negative character, and his behavior constitutes a severe narcissistic disorder.

Attitudes of Teachers

A noteworthy aid to teachers is the condensation of Wickman's findings under a new title (77). His statement that "teachers' reactions to the behavior problems of children are largely determined by the direct effect which the behavior produces in the teachers themselves," has stimulated numerous investigators to test this concept under varying conditions. Uger (71) reviewed the work in this field and cited two outstanding findings: (a) teachers tend to identify the problem child with antagonism to authority and to the teachers' moral concepts; and (b) they tend to ignore the child's purely personal problems, such as shyness, fearfulness, or unhappiness, because these do not often interfere with classroom order. Bott (8) compared the attitudes of parents, teachers, mental hygienists, public health nurses, and social workers toward twenty-one misdemeanors of children. Ten of the traits were ranked similarly by all groups, but on the remaining eleven traits there were differences, those between teachers and mental hygienists being the largest. On the other hand, Ellis and Miller (16) used the Wickman technic with 382 junior and senior high-school teachers in Denver, finding greater agreement between teachers and mental hygienists than Wickman had obtained in 1928.

School Conditions

Applying the Monroe Silent Reading Test to a group of socially maladjusted boys and correlating the scores with various factors led Feinberg and Reed (19) to conclude that many of these boys were meeting continuous defeat in school due to reading difficulties, which led them to look for success in spheres less socially acceptable. Keener (34) presented case studies illustrating the responsibility of the classroom teacher for building attitudes which tend to prevent delinquent behavior. Wallin (74), in his capacity as director of the division of special education for the Delaware State Department of Public Instruction, outlined practical ways in which the school can prevent truancy by providing more satisfying activities for pupils. The special class was especially recommended for the more serious types of behavior problems.

Experience at the Montefiore special school for maladjusted boys, in Chicago, led Stullken (66, 67) to the observation that reading difficulties are often related to behavior problems, and that remedial instruction tends to relieve the two forms of maladjustment simultaneously. Gates (20) presented findings which tend to support this view. Another technic is that of the drama, as described by Davidoff and Buckland (10). Socially normal and delinquent children were compared and the delinquents were found to be relatively deficient in personality integration and creative ability. It was recommended that instruction along these lines be adapted to age levels and to interests which are related to the degree of intellectual and emotional maturity. A survey of special education groups in Ohio was conducted by Berry (7), who included data on behavior problems and recommended increased attention to their needs.

A significant study was made by Evjen (18) with the use of his rating scale, applicable to both school and juvenile court cases, to determine the apparent adjustment of children to school relationships. The scale was found to be valuable for locating behavior disorders, determining their intensity, and indicating the sort of therapeutic and remedial needs. Welch (76) presented case studies of problem girls attending a special high school in Portland, Oregon. She listed as special needs in dealing with such problems better trained teachers, remedial teachings, provisions for segregation of some pupils in special classes, and visiting teachers. The manner in which the New York City schools are being adapted to the varying needs of pupils, with special reference to social maladjustment, was described in detail by a report from that city (56).

Relation of Courts and Institutions

Increasing attention is being given to the relationship of the courts to the schools, and the possibility of adopting similar or integrated procedures. The present status of the juvenile court with reference to the applicability of some of its methods in the school was described by Van Waters (73). Healy (25) summarized the proposed "Youth Correction Authority Act," a model enactment prepared for the American Law Institute and designed to set up

procedure in any state for dealing with matters of probation, institutional treatment, and parole. A significant feature of the measure is that careful study of the offender is required. In a survey report on residential schools for handicapped children Martens (46) included a chapter on provisions for the socially maladjusted. The most comprehensive recent study of institutions for socially maladjusted children was made by the Osborne Association (57). The findings have appeared in three volumes, representing three geographical areas in the United States. Volume 1 deals with the north central states, volume 2 with Kentucky and Tennessee, volume 3 with Washington, Oregon, and California. The survey was designed, according to the introductory statement in volume 3, to evaluate

... the plants, personnel, and program which have been set up for the care of boys and girls whose behavior has manifested itself in antisocial ways serious enough to make a period of specialized training and treatment necessary. The reports also point out the steps which, in our judgment, should be taken so that these institutions may function more effectively. Interspersed through the volume will be found statements which the Osborne Association believes constitute a sound and constructive philosophy of institution practice.

The setting up of an experimental institution to meet community needs with reference to child behavior problems was described by Teeter (68). The place of the detention home was discussed by Audy (2) and by Grossman (22), who described the work of the Hawthorne-Cedar Knolls school conducted on the cottage plan by the Jewish Board of Guardians in New York City. Kephart (35) also reported on the success of the cottage plan with self-government. Deacon (11) set forth procedures in effect at the Training School at Vineland, New Jersey, for dealing with behavior problems in association with mental deficiency. Other aspects of institution treatment were presented by Jenkins (31), Lowrey (42), and Eccles (15). Derrick and Fenton (13) showed how the Boy Scout program can be made to function in an institution for delinquents.

Experimental studies, with controls, have brought out the relative effectiveness of certain aspects of institution treatment. Some of these studies, including those of Anderson (1), Brown (9), and Murphy (55), made detailed comparisons of institution and noninstitution children. Deming (12), on the basis of case studies, was convinced that both institution and foster-home placement are necessary and that it would be a mistake to assume that one form should be used exclusively.

Prevention of Social Maladjustment

Preventive methods are still largely in the discussion stage, although some studies show concrete evidence of results. Sloane and Lane (64) presented the case of a delinquent boy who gave up his pattern of antisocial tendencies under the guidance of a welfare worker. Johnson (32) discussed the work of the Chicago public schools in correcting and preventing truancy, largely through segregation in special classes and special schools. Harnon (24) described mental hygiene procedures which might be utilized

by the classroom teacher. Beam (5) listed some of the outstanding ways the schools may cooperate with other agencies in the prevention of delinquency. Efforts of specific communities to establish preventive programs were outlined by Elmot (17), Houloose (28), Robinson (61), and Jacob (30). The diagnostic procedures and staff organization of child guidance clinics were described by Lurie and Hertzman (44), Miller (52), and Weiss (75).

Several writers submitted evidence of the growing relationship of child guidance to previously recognized activities. Kunitz (37) set up a readjustment unit in physical education for dealing with problem high-school pupils. Shaffer (63) pointed out the values of play and recreation as therapeutic measures. Martin (47) presented a plan, based on a two-year experiment, for preventive work through a boys' club.

Statewide and comprehensive community programs are considered by many observers to be the most promising agencies of prevention. Patry (59) outlined a state program of mental hygiene, including its relation to teacher training. Beam (3) described the coordinating councils of California, and in another article (4) reported on a national survey of coordinated types of community programs.

Summary and Needed Research

The reader is again reminded that excellent material relating to problem children and delinquency and its treatment appeared in the December 1940 issue of the REVIEW. In this chapter additional material, with particular attention to the educational aspects of the field, has been reviewed.

Much of the literature has referred to procedures and proposals for prevention, without sufficient objective evidence of their value. Too few studies applied directly to the nature and conduct of educational programs, from the viewpoint of either prevention or treatment. A significant beginning, however, has been made in the study of basic physical factors, which may have important educational implications; etiological investigations and endocrine studies seem promising. Behavior rating scales and personality inventories, if standardized and made generally available, may become useful tools of research in discovering maladjustments and in guiding the development of improved educational programs. Diagnostic and adjustment studies related to pupil interest, school success, and behavior should aid in determining improved curriculum content.

The utilization of the child guidance clinic and foster home placement, case-work methods in juvenile courts, and treatment in social groups, such as camps and recreation clubs, has pointed to varied means and procedures to which the school may relate its program and methods. Suggested plans for the cooperation of the school and these other community agencies might well be followed up by controlled experimental studies leading to objective evidence of results. Finally, studies of residential schools for juvenile delinquents have given promise that findings from research may prove increasingly valuable in building constructive programs in these schools.

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CHAPTER V

The Auditorily and the Speech Handicapped¹

(AUTHORSHIP AS INDICATED BY SECTION)

IN THE BRIEF SUMMARIES relating to the handicapped that have appeared in earlier numbers of the REVIEW, major studies of the auditorily handicapped have been reviewed up to about 1938. Literature in the area of education for speech defects has received less attention. The reviewers, in this chapter, have reported material predominantly of the past five years, including earlier studies only for important points of reference.

The first two sections of the chapter deal with the literature concerning the deaf and the hard of hearing; the third section treats of the speech handicapped. Since many of the studies deal with both the deaf and the hard of hearing, these two groups are reported together. Due to the improvement of instruments for measuring hearing loss, contributions have been made within the past five years to methods of making hearing surveys, both in public day schools and in residential schools, and to the use of those findings as a basis for educational treatment. Research in the training of residual hearing and of speech and language through the use of hearing aids has been significant. Studies of vocational adjustment have also been made. Research relating to the psychological aspects of learning ability and personality adjustment has been continued.

A. Educational Provisions for the Deaf and Hard of Hearing

CHRISTINE P. INGRAM

Educational Provisions for the Deaf

Fusfeld (9) presented a tabular statement of information on 68 public residential schools, 128 public day schools, and 9 denominational and private schools, totaling 20,507 pupils and 2,854 instructors, in the United States as of October 20, 1939. Items of enrolment, number of instructors, and vocations were stated for each school. The same items for 10 schools in Canada are included. Taylor (30) presented a series of articles covering the development of public day schools in the United States. He attributed the increase in day schools to parents' interest in oral instruction and the child's living at home.

The report of the Committee on Hard-of-Hearing Children of the American Society for the Hard of Hearing (11) stated that for the school year 1938-39, 17,708 children were reported receiving instruction in lip reading.

¹ Bibliography for this chapter begins on page 310.

These figures included 10,000 from New York State, of whom 4,000 were definitely reported and 6,000 estimated by the state department. Lip-reading teachers, numbering 257 in 107 towns of the country, were reported. Thirty-three cities reported 250 hard-of-hearing pupils enrolled in special class units. Although the provision for lip-reading instruction was considerably greater than in earlier reports, large numbers who needed it were still uninstructed in the art. The report suggested that much educational work remained to be done with otologists and school administrators.

The preschool deaf and hard-of-hearing child—Benning (3) stated the importance of nursery-school training for deaf children and gave suggestions for organizing and conducting nursery schools. Howard (15) described a program in the Rochester School for the Deaf based on nursery-school technics for normal children and on technics of the Alcorn method for developing speech. Hoffman (14) dealt with the nursery-school program at the Lexington Avenue School for the Deaf in New York City. Methods for the development of speech and lip reading were described. Cloud (6) reported the nursery-school experiment at the Illinois State School. Timberlake (32) stated problems that arise when the hard of hearing do not have early educational planning which takes account of their handicap. Loew (21) reported a county survey in New York State to discover children of preschool age with impaired hearing. This complete study included recommendations for discovery, registration, treatment, and prevention of hearing loss of preschool children.

Surveys of Training in Residential Schools for the Deaf

Pauls (28) made an analytical study of the hearing loss of 100 children at the New Jersey State School for the Deaf. She found that only 4 percent of the children were totally deaf; that approximately 50 percent heard better by bone conduction than by air conduction; and that approximately 50 percent could be aided by acoustic training and a hearing aid. She concluded that the greatest educational advance for children with defective hearing was in the use of acoustic devices, following scientific study of amount of hearing loss. LaBranche (20) reported an audiometric survey of 124 pupils in the Michigan School for the Deaf. The large majority had a hearing loss of 90 to 100 percent. A high negative correlation was found between hearing loss and school achievement. O'Connor (27) reported a partial follow-up of an extensive and comprehensive survey in 1935 and 1936 of medical and educational phases of testing, medical treatment, and utilization of residual hearing of pupils in schools for the deaf. Comparisons with earlier surveys indicated substantial gains. O'Connor (26) also furnished a clear-cut picture of findings of a hearing survey and resulting diagnosis which furnished a basis for differentiated educational treatment. Four case histories were given. This study was carried on at the Lexington Avenue School for the Deaf.

A study to secure objective data on the results of acoustic training was made by Johnson (17). At the Illinois School for the Deaf, tests of (a) drill vocabulary, (b) speech intelligibility, (c) acoustic understanding, (d) acoustic speech reading, and (e) speech reading were given to deaf and hard-of-hearing children following full-time use of the ear phone in their classes. The conclusion was that the degree of success in speech and lip reading was directly related to the extent to which hearing was trained. Numbers (25) described an experiment in the training of residual hearing through the intensive use of the hearing aid with a small group of children without speech upon entrance to the Clarke School for the Deaf, Northampton, Massachusetts. Her results showed gain in linguistic and speech development. Goldstein (12:18) described the acoustic method for the deaf as it was developed in the Central Institute for the Deaf at St. Louis as the "stimulation or education of the hearing mechanism and its associated sense organs by sound vibration as applied by voice or any sonorous instrument." Graduated practical exercises for developing perception of tones and spoken language were outlined. The administration of hearing tests, diagnosis for educational treatment, and the use of hearing aids were also included. A comprehensive and scientific approach to many problems, including hearing tests and aids, was made by Ewing and Ewing (8), based on study and experience in the Manchester School for the Deaf in England. The problems of all levels from preschool to adult were discussed. Alfaro (1) presented the causes of deafness, and a statement of therapeutic measures of proven value was made by Johnson (16).

Surveys of Conditions in Public Day Schools

Timberlake (31) presented a comprehensive and objective description of the different groupings under the deaf and hard of hearing as to degree of hearing loss and speech, with accompanying recommendations for educational treatment. She made recommendations for carrying out hearing surveys and otological examinations in schools. The American Society for the Hard of Hearing in its report (11) for the school year 1938-39 stated that 1,871,031 school children were given audiometer tests in 767 towns and 126 counties in the nation. This was the largest number yet reported. The average incidence of impaired hearing was calculated from these reports to be 6.9 percent. The figure for the previous year was 6.1 percent. A total of 23,371 were given a follow-up test with the pure tone audiometer. The number who were given otological examinations increased. Gardner (10) furnished data on the extent of hearing defects among 44,232 school children surveyed by the Indiana University Speech and Hearing Clinic in the State of Indiana. Teachers filled out detailed reports of children with 15 decibels loss in the better ear or 30 decibels loss in one ear and normal hearing in the other, and educational treatment was planned accordingly. Gardner also reported that certain communities in as many as forty-five states have a regular plan for annual hearing surveys of school children.

State departments have made rapid progress in passing regulations for hearing and otological surveys. Three states—New York, Massachusetts, and Oklahoma—have appointed an audiometer counselor. New York City submitted a special report (5) on retardation of children with impaired hearing, under the Works Progress Administration Project No. 6065 for the Conservation of Hearing of School Children. Findings of the survey, involving more than 600,000 children, indicated that 3 percent had impaired hearing in both ears; about 4.5 percent needed otological diagnosis; and 1.5 to 3.5 percent needed lip-reading instruction. Experience with more than 4,000 hard-of-hearing children pointed to the reduction of retardation after lip-reading instruction had been received for a period of from six months to two years.

Hearing Aids

Hand in hand with the use of residual hearing is the development of optimum hearing aids. Timberlake (33) reported to date, 1938, the development in commercial hearing aids and the use of word tests in the individual selection of the aid. Niemoeller (24) discussed the various classes of mechanical and electrical aids, the principles underlying their construction, the special uses they may have, how their value may be judged, facts concerning their manufacture, and comparative price ranges. Knudsen (19) described the construction and advantages of the vacuum tube aid and its present limitations. He also indicated the advantages of binaural hearing aids over the monaural instrument. Neuschutz (23), a deafened subject, analyzed and answered the difficulties that must be overcome in adapting oneself to the use of hearing instruments. She discussed the educational, social, and psychological adjustments to be met by the deafened individual.

Studies of Teaching Procedures

There have been descriptive articles concerning content and method but practically nothing in the nature of research beyond the nursery school. Earhart (7) described and evaluated a two-year experiment with a group of eight second- and third-grade children in a school for the deaf at Columbus, Ohio. The purpose of the study was to discover if young deaf children can grow into control of language commensurate with their level of intelligence through a school program which substituted numerous visual contacts with language forms in the vital situations which the hearing child experiences in everyday living. The results showed improved language development.

Vocational Guidance, Training, and Placement

Several studies have appeared relating to the vocational aspects of education for the deaf and hard of hearing. There was reported in tabular form (2) a classified list of vocations which were taught in schools for the

deaf with the direct purpose of fitting the pupils for some gainful education—agriculture, commercial work, handicrafts, semiprofessions such as commercial art and drafting, trades and industries, and vocational handicrafts. Woodruff (34) described the program in vocational agriculture carried on under the Smith-Hughes Act at the Georgia School for the Deaf, Cave Spring, Georgia. Jones (18) reported the results from a questionnaire survey of vocational guidance in fifty schools for the deaf. Forty-four percent of the schools had trained guidance workers, 40 percent had untrained workers, and 16 percent reported no one available. Twenty-nine schools stated that such service was available for them through the regular day school of their community. One-half of the schools kept no follow-up records at the time of the study. Only seven schools used standardized tests as an aid in guidance. Suggestions were made by the author of the report for a more adequate guidance program. Miller (22), from a questionnaire study of placement and follow-up work in schools for the deaf, found varying practices and a general recognition of the need for such placement. Hicker (13), the chief of the California State Bureau of Vocational Rehabilitation, appealed for the cooperative effort of all services in vocational training, counseling, and placement. Experience with several hundred deaf persons demonstrated the need for the development of social responsibility and self-confidence on the part of deaf applicants for employment. Rosenthal (29) reported questionnaire returns on the employment of fifty-one deafened and hard-of-hearing persons. The variety of jobs filled and satisfactory reports of employees indicated success for the large majority. Bluett (4) reported information on individual cases and offered vocational suggestions.

Needed Research

More accurate records of the incidence of hearing loss would be valuable. Results of hearing surveys of school children should be studied for the purpose of identifying and analyzing those factors which cause and condition hearing loss. Controlled studies of environmental factors and of methods that produce optimum development of language and speech in the preschool child are needed. Excellent settings for such studies are afforded in the nursery schools that have reported experimental programs.

Studies should be made of the use of hearing aids in which language growth at elementary-school age is recorded in terms of the length of instructional periods and the nature of learning activities. The selection of suitable curriculum experience, including vocational opportunities, offers another area for study. Studies that measure the results derived from lip-reading instruction for the hard-of-hearing child who can continue his major work in the regular school organization are advised. The present status of research relating to educational provisions indicates that concerted attack by research departments of universities and by schools which face the problems would be helpful.

B. Psychological Studies Related to the Education of the Deaf and Hard of Hearing

RUDDOLF PINTNER

Learning Ability

Performance scales and tests, such as the Pintner Non-Language Mental Test, are widely used in studying the learning ability of deaf children. Samples of deaf children tested by means of various performance scales all show mean or median IQ's below 100. Amoss (35) reported a median IQ of 94 for 288 cases tested by the Ontario School Ability Examination. Roth (53) reported a mean IQ of 89 for 201 cases tested by various performance tests. Bishop (36) gave results for 90 deaf and hard-of-hearing children on the Arthur Performance Scale and found a median IQ of 97. The evidence from these and earlier studies seemed to point in the direction of a low-average IQ for deaf children on performance intelligence tests. Springer (55) used the Goodenough Drawing Scale with 330 deaf and 330 hearing children. Although the deaf tended to achieve slightly lower IQ's than the hearing children, a mean IQ of 96 indicated for the deaf children approximately average intelligence as measured by this scale.

At the college level, Fusfeld (40) reported results for deaf college students at Gallaudet on the American Council Psychological Examination and found that the median score for the deaf fluctuated between the 32d and 55th percentile for hearing students during the five years covered by his report. Fusfeld also compared deaf students with hearing students on standard college achievement tests.

Pintner and Lev (52) gave a verbal group intelligence test to a large sample of hard-of-hearing children, but in addition they gave a nonlanguage test to some of the larger group. They found the expected lower IQ for the hard of hearing on the verbal test, but no difference between the two groups on the nonlanguage test. They suggested that the slight retardation on verbal tests might be due to a language handicap. In concrete or nonverbal intelligence the hard of hearing may be equal to the normally hearing.

Special Abilities

Long's study (44) in 1932 is still the outstanding investigation of the motor ability of the deaf. He used eight different measures of motor ability and, with the exception of the sense of balance, found no difference between his deaf and hearing groups. Stanton (58) made a thorough study of the mechanical ability of the deaf by means of the Minnesota Mechanical Ability Test. The deaf group were about equal to the hearing control group, but both groups fell below the published norms of the test. Lyon (45) in an earlier study tested deaf children on this same test and found them below the hearing norms. Morsh (47) also reported on certain motor tests given to deaf and hearing subjects.

Language Development

Recent work by Keys and Boulware (42) showed that progress in language during the period of a year was much greater for children having 21 to 60 percent hearing than for those below 20 percent hearing, and also that there seemed to be no difference in language gain between those who lost their hearing before the age of two and those who lost their hearing between two and five years of age. The Psychological Division of the Clarke School for the Deaf (39), under the direction of F. and G. Heider, recently published the most thorough and extensive investigation of the written language of the deaf up to the present time. They analyzed 1,118 compositions of deaf and hearing children and made a detailed study of the differences found to exist between these two groups. The deaf showed immaturity in the development of their written language. The detailed findings of this study were too extensive to summarize here. In this same monograph (39) there appeared also studies of the phonetic symbolism of deaf children and of the spontaneous vocalization of fourteen young deaf children in free play and in experimental situations.

Lip reading is an important educational skill taught in schools for the deaf, but thus far it has resisted accurate measurement in an objective manner. Heider (39) and Mason (46) have probed into the possibilities of the use of the motion picture in developing a standardized test of lip-reading ability.

Personality Adjustments

Much of the work on the personality of the deaf consists of giving standard adjustment or personality tests to deaf children and comparing them with the published norms or with hearing control groups. Springer (56) and Springer and Roslow (57) have published comparisons of deaf and hearing children on the Brown Personality Inventory. These reports, as well as an earlier study by Lyon (45) in which he used the Thurstone Personality Schedule, showed the deaf to be much more emotionally unstable than the hearing, so much so as to cast doubt on this method of procedure. Brunschwig (38) experimented with adjustment schedules constructed for hearing children and concluded that they were unsatisfactory for the deaf because of the great language handicap of the deaf. She therefore constructed an adjustment inventory especially for the deaf. When this inventory was used to compare deaf and hearing children of the same age, she found the deaf only slightly below the hearing and concluded that deaf school children feel almost as well adjusted as hearing school children. Pintner and Brunschwig (49) used this same inventory to compare children in four schools for the deaf taught by different methods of instruction and found that manual pupils scored lowest, but that there was no difference in adjustment score between pupils using the oral method and pupils using a combined oral and manual method. They also found that children who

came from families where there were no other deaf individuals made the poorest adjustment scores.

The Haggerty-Olson-Wickman Behavior Rating Schedule was used by Springer (54) and by Kirk (43). The results were not conclusive. Teachers of the deaf as a group seemed to rate their pupils more severely than did teachers of the hearing, although this was not true for all such teachers. Pintner, Fufeld, and Brunschwig (51) have reported results for deaf college students and deaf adults by use of a slightly modified form of the Bernreuter Personality Inventory. The modifications consisted of simplification of the language of the inventory. They concluded that deaf adults on the average tested slightly more neurotic and slightly less dominant than hearing adults.

The fears and wishes of the deaf child have been investigated by Pintner and Brunschwig (50). Deaf boys checked about the same number of fears as the hearing boys, but deaf girls checked many more fears than the hearing girls. The Vineland Social Maturity Scale has been used with the deaf by Bradway (37) and with both the deaf and hard of hearing by Streng and Kirk (59). Bradway found a mean social quotient of 81 for the deaf. Streng and Kirk (59) found a mean SQ of 96.2 for the deaf and hard of hearing taken together as a group. Pintner (48) reported on a general adjustment test and on a personality inventory for the hard of hearing. He found that slight loss of hearing seemed to have no effect upon reported feelings of adjustment, but as hearing loss increased the child tended to check more items indicating less desirable adjustment. Similarly in his results on personality traits, he found no difference between normal and hard-of-hearing children with regard to ascendance-submission or introversion-extroversion, but he did find a slight difference in emotional stability, those with marked hearing loss showing on the average the poorest emotional stability scores. Habbe (41) worked intensively with a small group of hard-of-hearing adolescent boys and found no special personality difficulties arising specifically out of their hearing loss.

Conclusions Concerning Psychological Studies

The average deaf child differs substantially from the average hearing child in intelligence and school achievement; the hard-of-hearing child seems to stand midway between the deaf and the normally hearing child. Loss of hearing affects language development and this is immediately and significantly reflected in the educational achievement of the child. It would seem also, but to a lesser extent, to be reflected in any measure of intelligence involving language. With respect to intelligence measured by means of nonlanguage material, the results at present seem to suggest that the deaf are also retarded here, but that the hard of hearing are not. Further investigation is needed at this point.

In the area of personality the various studies so far would seem to show that there is no such thing as a specific "deaf" personality. The deaf and the hard of hearing vary in personality make-up to the same extent as do

the normally hearing. However, loss of hearing to any degree does present difficulties which the individual has to face. How he will react to this additional problem in his life will depend upon many factors, among which are the degree of hearing loss and the time of occurrence of this loss. Those who are profoundly deaf and those who are born deaf or become deaf in early life are severely handicapped in normal language development. This handicap tends to prevent normal participation with others and makes the education and personality development of the deaf difficult.

The past decade, building upon work done previously, has shown a gratifying number of studies dealing with the psychology of the deaf and the hard of hearing.

C. The Speech Handicapped

SARA STINCHFIELD-HAWK

The most comprehensive study yet made in this country on the speech handicapped was the report prepared for the White House Conference on Child Health and Protection in 1930 by West, Travis, and Camp. One of the most important portions of the report consisted of recommendations for follow-up work. It is timely to note here what those recommendations were because recent research indicates that progress is being made in respect to them. They stressed the need of extension of school speech-clinic facilities both in urban and rural districts; the need for the understanding of what is meant by speech hygiene; the need for furtherance of ways and means of caring for speech defectives by school administrators and teachers; the need for providing teacher-training facilities in this field of education; and the need of further researches as to causes, conditions, prevention, and treatment of various types of speech defects.

Current Research in Speech at University Centers

The chief research studies in speech pathology, phonetics, psychology of language, and childhood speech development are being carried on in the university laboratories and in some of the larger nursery schools. Several institutions have made studies under research grants. A recent study (106) was that of the Hill-Young School of Los Angeles, an observation center for students in speech and psychology at the University of Southern California. Under a Rockefeller grant, studies have been made of motokinaesthetic training for children who do not acquire speech readily by eye or by ear; recordings of children's speech have been made for study purposes, and films of the therapeutic methods have been prepared for use by teachers, parents, and graduate students.

As to the types of training and research in speech pathology in California universities, those under way in the psychological laboratory at the University of Southern California are typical. There are studies involving the effectiveness of auditory, visual, kinaesthetic, and verbal

factors in learning speech, and of individual differences in the use of these factors in the acquisition of new skills and units of behavior. Another project has involved a comparative study of the behavior, particularly of the expressive components, of delayed speech and the speech of normally speaking children. Theses by Beckey (62), Bancroft (61), and McGuire (91) and articles by Travis (110, 111) indicated the nature of some of these studies.

The University of Wisconsin is engaged in an intensive study of hearing problems relating to speech, with West supervising much of the work. Kantner and West (86, 116) made significant contributions in the field of kinesilogic phonetics. Kopp (89) contributed certain metabolic studies of stutterers. The Flo Brown Memorial Laboratory at Wichita, Kansas, cooperating with the School of Pediatrics of the University of Wichita, is making intensive studies of the development of spastic children and of their speech, as well as of cardiac rhythms of stutterers and of sex-linked mechanisms involved in stuttering.

At the University of Iowa some of the most extensive and detailed studies of speech have been made. The works of Travis, of Strothers and his assistants, and of Johnson have been published in the Iowa University archives in speech and psychology and in the various publications on speech pathology. The report by Travis and Eagen (113) on the conditioning of the electrical response of the cortex is only one of many examples that could be given. The papers of Johnson (85) and of Travis (112) relating to summaries of trends and needs bear mention here because of the extensive research these two specialists have carried on. Northwestern University has devoted much time to teacher-training phases of speech work, to study of childhood speech, and speech clinical work. The University of Minnesota has given much time to studies on the speech of birth-injured children. Rutherford (102) has cooperated in this field. Studies of speech re-education of stutterers and the incidence of stuttering are represented in Brown's report (68). Dusenbury and Knower experimented with symbolism of voice and action (75). At Indiana State Teachers College is one of the newest and best-equipped speech laboratories. At the University of Missouri studies have been made of conditioned reflexes and inhibition in relation to stuttering by Moore (92).

An inspection of thesis subjects in the field of speech pathology at these and other institutions indicated a wealth of research under way. Many of these research articles have been published or briefs and announcements made of them in speech periodicals. An excellent source of bibliographical reference for speech publications has been provided in the recent volume, entitled *Bibliography of Speech Education*, by Thonssen and Fatherson (109).

Terminology and Speech Classification

The classification and definition of speech defects outlined in the report of the White House Conference of 1930 have been widely used for

school children. Speech classifications and glossaries of terms have appeared since that date in publications by Bender and Kleinfeld (64), and by West, Kennedy, and Carr (117). In order to find a common ground and to establish a terminology in speech defects as used in this country and abroad, the American Speech Correction Association some years ago appointed a terminology committee which published its first dictionary of terms in 1931 (101). An enlarged and modified dictionary of terms dealing with disorders of speech appeared in the March issue of the *Journal of Speech Disorders* for 1941. This is the result of years of research and study on the part of the committee, and it possesses the advantage of collaboration with writers from abroad who are familiar with the terminology in other countries in the field of speech pathology.

Studies of Normal Speech and Language Development

As an aid to understanding the symptoms and causes of speech disorders, attention has been focused on the normal language and speech development of infants and preschool children. Typical recent studies of language development include Davis' study of relation of repetition in children's speech to measures of language maturity and the situational factors (73). This study from the University of Iowa on extemporaneous speech of each of 62 children, aged twenty-four to twenty-six months, showed that repetition of syllables, words, and phrases combined gave a fairly normal distribution for all children. These data seemed to indicate that repetition is an element that occurs in the development of speech for most children.

Templin and Steer at Purdue University (108) made their first report on a study of the growth of speech in preschool children. The growth in articulatory development was recorded regularly by speech clinicians. Voegelin and Adams (115) made a phonetic study of young children's speech. Palmer (99) described a plan for a longitudinal study of the vocalization and of the speech of children from birth on. Eisenson (76), in his book on the psychology of speech, gave attention to the development of language and speech in children. It is impossible to mention or to review all the excellent studies which have been made, and for a more complete record the reader is referred again to the *Bibliography of Speech Education* (109).

Gesell's studies (79) of infant growth from the Yale Psycho-Clinic have furnished excellent material on the nature of language development and its social aspects. Chapters on language development in recent child psychologies have offered for the average student a background of perspective for the understanding of speech deviations. Brooks' *Child Psychology* (67), for example, included such a chapter.

Studies of Speech Disorders

Stammering—In the section on research studies, reference was made to investigations on the nature and treatment of stammering. Recognizing

the need for more intensive studies in the field of speech pathology, the American Speech Correction Association (60) recently devoted its entire convention programs for two successive years to a discussion of the causes and treatment of stuttering. Contributions were received from speech pathologists from all over the country. Bluemel (66) not only presented various theories of stammering but gave helpful outlines for treatment. Stuttering as an emotional and personality disorder has been described by Solomon (104) and Bryngelson (70). Travis (110:193) presented recently the thesis that "stuttering is a defense designed to prevent anxiety from developing when certain impulses of which the stutterer dares not become aware threaten to expose themselves." Bender (63) studied a post-pubertal group of stutterers and discovered more personality maladjustments than in a control group of nonstutterers. He attributed the difference to the individual's own reactions to his handicap.

Two books, one by Blanton (65) and the other by Gifford (81), were written primarily for stutterers and are based upon the theory that stuttering is caused by some emotional disturbance. Later in this chapter, under the subject of programs, reference is made to treatment for stuttering in school children.

Disorders of speech due to birth injury—With the growing recognition of the mental and social potentialities of birth-injured children, the speech specialist has recently given special attention to their speech problems. Hull (84) made a study of the respiration of fourteen spastic paralysis cases during periods of silence and of speech. Records showed malfunctioning in breathing that could be defined and partially explained. Further research in this area was advised. Davison (74) reported case studies and described in detail methods of developing motor control and speech response. Rutherford (103) described a procedure to make the child aware of his secondary movements which are habits that he no longer needs and to develop in him the power to induce or inhibit them. Fagan (19) reported methods used for speech education with nine spastic children, ages three to fourteen years.

Other types of speech disorders—Brown and Oliver (69) reported a qualitative study of abnormalities of the organic speech mechanism associated with cleft palate. Stinchfield-Hawk (82) described speech defects sometimes associated with malocclusion. Neilsen's publication (95) reported research on the subject of aphasia and Fröschels (78) presented European views on the subject. Orton (97) published a brief summary of his findings from a ten-year study of language disorders.

School Surveys of Speech Defects

Loutitt and Hall (90) presented data from a questionnaire study of the schools of Indiana and the incidence and types of speech defects reported. Carhart (72) analyzed returns of 405 questionnaires involving 144,570 students. Of the total number, 21 percent were judged by their

teachers to have speech defects; more speech disorders appeared among boys than among girls, and these defects decreased progressively from the freshman to the senior level. Only 4 percent of the schools studied had definite programs, 39 percent reported only incidental attention, and 57 percent reported no attention given to the matter. Morris (93) made a survey of a random sampling of 178 high-school sophomores for voice and speech defects and found 14 percent to have such defects. No significant difference between normal and speech defective groups was found in respect to intelligence, sex, or nationality background.

Programs of Speech Hygiene and Speech Therapy

Reports on school programs are more or less descriptive or expository. Buckley (71) reported a year's speech work in the Cleveland public schools, with special reference to the contribution made by the kindergarten and first-grade teachers in the correction of minor defects. Stoddard (107) described the special teacher's plan for the treatment of stammering in the Detroit public schools. Gifford (80) described the technics for the correction of stammering used in the schools in California. Knudson (87) made a study of the oral-recitation problems of stutterers. Heltman (83) described a program of speech correction set up in a number of New York State communities in which the speech clinician gave courses to teachers, including clinical demonstration of diagnosis and treatment of the speech problems found in the grades of the attending teachers.

Nylen (96) presented the viewpoint that guidance and speech work have a common purpose at the high-school level. Raubicheck (100) described the nature of disorders and methods for treatment at the secondary level. Otto (98) and Young (118) described ways and means for providing instruction of pupils with speech problems in rural areas.

Bender and Kleinfeld (64), West, Kennedy, and Carr (117), Van Riper (114), and Stinchfield (105) presented comprehensive treatises on the diagnosis and treatment of speech disorders. These contributions supplied help to the supervisor and teacher in understanding speech problems. Koepp-Baker (88) furnished a manual in which he described clinical treatment for speech problems. Murray (94) regarded speech training as essentially a reconditioning of the individual to social situations and presented a manual designed to help the college student understand and improve his "speech personality."

Present Trends in Speech Research

The present trend is toward integration of speech with all other branches of learning, and the social aspects and economic advantages of normal speech or rehabilitation of speech are gaining in recognition and importance. Speech regarded from this viewpoint is tangent to child psychology, physiology, anatomy, chemistry, physics, psychoanalysis, mental hygiene, sociology, and all forms of public speaking or private speech. The opportunities, therefore, of enlisting the cooperation of specialists in

other fields of study are great. Only through concerted study can more valid findings be made. The number of universities and colleges ready to adopt speech programs and to carry on research in the field is increasing. The trend in programs of speech hygiene and speech therapy is to train the classroom teacher to assume the responsibility of speech hygiene with her pupils in order to enable her to correct minor speech defects and to aid in the prevention of the development of disorders. The teacher who is a speech specialist then takes as her responsibility the definitely serious or clinic problems.

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CHAPTER VI

The Visually Handicapped, the Delicate, and the Crippled¹

CHRISTINE P. INGRAM

IN 1936 a review of literature concerning the mental hygiene and adjustment aspects of the three areas considered in this chapter was prepared by Baker (2), and in 1939 a brief report was made by Lee (29). Whereas both of these reviews were of necessity limited, the present treatment will be more inclusive in its scope. Selections will be made from the literature covering approximately the past three years, with the addition of certain significant contributions of an earlier date, which may aid in giving a more nearly complete picture.

A. The Blind

A selected annotated bibliographical guide to literature relating to the blind was compiled by Lende (30). The sections giving references on the preschool child, psychology, education, vocational training, and vocations are of particular significance for education.

Kirby's report (25) of the Committee on Statistics for the Blind presented the 1938-39 findings of annual ophthalmological examinations on standardized forms of 3,868 pupils from thirty-nine schools for the blind. Tables giving etiology, eye conditions, degree of loss, and ages were given. Results showed a complete loss of vision or a greater loss than 20/200 for 77 percent of cases. The enumeration showed that more than one out of every ten had sufficient sight to be educated in a sight-saving class. Lack of such facilities in day schools was responsible for the presence of some cases; in other instances the school for the blind was not alert to recognition of individual eye condition.

Lende (31) edited a series of reports by authorities on various aspects in the presentday education and treatment of the blind. One of the problems discussed was the child with borderline vision who is not classifiable as educationally blind. Four case studies of adjustment of borderline pupils in Cleveland day school braille and sight-saving classes were reported. Another chapter was devoted to the subject of the preschool child.

The Preschool Child

There has, within the past five years, been a growing literature on the blind preschool child. McVickar (39) and Bershow (3) described nursery schools for blind children. Fjeld and Maxfield (13) stated the

¹ Bibliography for this chapter begins on page 326.

need for research because of the many special problems, such as "blindisms," nervousness, personality maladjustments, and retardation which blind children develop. An outline for a proposed program of research and research activities in progress at the Arthur Sunshine Home for Blind Babies were described.

Maxfield (38) reported a detailed study of method preliminary to a longitudinal investigation to extend over a number of years. Eight visually handicapped children were used as subjects and a verbatim report form of the observational method, based on experimental procedures found satisfactory with normal children, was employed. Maxfield stated reasons why longitudinal studies, though difficult to carry on, would yield results beyond those of cross-sectional studies. A second report by Maxfield (37) described a three and one-half year study of vocabulary building for the preschool child and included vocabulary lists. Mention is made of Taber's thesis (45), since it furnished a careful experiment in home guidance for the young blind child. Over a nine-month period she measured the responses of a totally blind child to the normal activities and requirements of home life. Certain measurable results were reported. McVickar (40) studied the voluntary behavior of twenty blind and partially sighted preschool children over a period of five years. She observed differences between the totally blind and the partially seeing. Her recordings showed a similarity in the behavior of the blind and partially-seeing children at the three-year level, but sufficient differences at the five-year level to make the needs of the two groups very different in respect to ability and interests.

Mental and Educational Tests

Hayes (19) has continued his studies of tests adapted for the blind and in this report gave a history, inventory, and criticism of both mental and achievement measurements. Achievement tests adapted for use in recent years were grouped under those for elementary school, for high school, and for diagnostic and remedial teaching. Research on a 1940 adaptation of the Hayes-Binet Scale and on a selection of tests from the L and M Forms of the Terman Revision is under way. Hayes (21) in an earlier article gave evidence of low scores in literature and history on the Stanford Achievement tests and made suggestions for the use of tests to locate inadequacies for which enriched experience should be provided. In another article (20), he gave further suggestions to teachers for the use of available suitable tests. Fortner (14) reported the adaptation of the Kuhlmann-Anderson group intelligence tests for Grades VI to IX. Davidson and Brown (9) described the construction of a test in point-scale form for testing children visually handicapped to any degree. Hayes (19) referred to its use in his experiments. An adaptation of the scholastic aptitude test of the College Entrance Examination Board made at the request of the New Jersey Commission for the Blind was reported by Brigham (4).

Lowenfeld (36), a Viennese teacher, reported on experimental and comparative studies of the partially sighted and the blind child's visual and nonvisual sources of drawing, painting, and sculpture. Copies and photographs of the children's art products from which the studies were made were included. Klein (26) described an individualized approach to the study of problems of perception in the blind and partially sighted.

Personality Adjustments

Farrell (12) presented the special nature of adjustments needed by the blind which suggested the value of a mental hygiene approach in the educational program. Post (42) described the work of the girls' counselor in a school for the blind in securing cooperation of agencies outside and in promoting socialization within the school. Brown (5) reported quantitative data on the administration of the Clark Revision of the Thurstone Personality Schedule to 218 students in schools for the blind and to 359 high-school seniors. The incidence of neurotic tendency was higher among the blind than among the seeing. Harvey (18) favored the practice of enrolling the advanced blind pupils in the day high school of the community.

Adaptations in Curriculums, Methods, and Teaching Aids

Frampton (15) edited a book on the education of the blind, which embodied a compilation of reports made by the staff of the New York Institute for the Education of the Blind. Curriculums and methods based on enrichment at the elementary and secondary levels and vocational and prevocational experiences were reported. Special educational problems of the deaf-blind and mentally retarded blind were also considered. Quimby (44) made a study of the curriculums for residential schools. Typical problems in the education of the blind, courses of study from kindergarten through senior high school, and programs in music, physical education, and manual arts were surveyed and reported. Recommendations were made as to the need of experiments on length of school day, the reorganization of the school program to make more satisfactory provision for individual differences, better vocational guidance and placement programs, and need for training in leisure-time activities.

Chatfield (8) emphasized the importance of a planned program for the teaching of beginning reading. Prine (43) discussed arithmetical difficulties and diagnostic and remedial technics of instruction. Adaptations in teaching methods or aids in the nature of models and adjusted equipment were reported by Hebbeln (22, 23) in physics; by Morgan and Wellington (41) in geometry; by Hill (24) in natural science and in history; and by Loomis and Mitchell (32) in chemistry. Burnside's monograph (7) on loom accessories for blind weavers showed by description and picture a helpful kind of information made available for the teacher. Numerous references to the use of the Talking Book (33, 34, 35) in schools and classes for the blind have appeared. Lowenfeld (34) furnished a graph on results of Stanford Achievement Tests in schools for the

blind and called attention to the slower rate of braille reading and low achievement in literature and history. On this basis he recommended wider use of the Talking Book. A catalog of available records arranged by Lowenfeld (33) for grades and junior and high-school level indicated that the number of titles below the sixth grade was limited. Plans were reported under way (35) to develop more material for the lower levels.

Reports by Buell (6), Emanuele (11), Landis (27), and Lang (28) indicated continued experimentation in physical activities and recreation to discover means of extending participation and developing socialization on the part of the blind. Lang (28) reported adaptation of a baseball game with the use of sound effects. Hall (17) described the special characteristics and needs of the deaf-blind and practical procedures for their education.

Training and Salaries of Teachers

Lowenfeld (35a) reported a study of the training and salaries of teachers of the blind in residential schools, made in 1940 by the American Foundation for the Blind. The study covered 44, or 88 percent, of the residential schools in the United States, and 703, or 74 percent, of the full- and part-time teachers. He found that the teachers "have the same professional training as do teachers in public schools, but that their salaries are far below those paid to public-school teachers." Their length of tenure was also shorter, giving rise to the conclusion that "the low salaries in schools for the blind and the heavy teacher load tend to offset the attractiveness of the work. . . . It [is] imperative that the authorities of schools for the blind adopt a decided change in salary schedules if they are to retain well-trained teachers until they acquire sufficient experience to reach their maximum efficiency."

Vocational Training of the Blind

Athearn (1) has made a comprehensive analysis of vocational problems related to occupational changes, specialization, counseling, and training. A table was also included showing percent of blind workers employed in major occupational groups. Certain changes in vocational curriculums taking place in schools for the blind were reflected in such reports as that by Fries (16) on the future of piano tuning and Delamarter's description (10) of a program for vocational agriculture at the Michigan School for the Blind. This latter program under Smith-Hughes aid offered courses in poultry raising, fruit growing, floriculture, and landscape gardening.

Summary

Most of the material cited in this chapter came from members of the staffs engaged in the state residential schools for the blind. There were few articles from the public day school. The subjects of intelligence and achievement tests and of the preschool blind reveal some planning which suggests that findings may in the future become increasingly valuable.

Research is needed in the subject of personality adjustment. An increasingly open-minded attitude in curriculums and methods, including vocational training, suggests that teaching staffs might well cooperate in carefully planned and controlled studies which would yield valid basis for changes and improvements.

B. The Partially Sighted

Eye Care

Knighton (53) furnished ophthalmic information on the child's visual response and the use of his eyes to be taken into account by both the pediatrician and psychologist. Hitz (50) submitted a preliminary report of the use of the Snellen Chart, the Betts Ready To Read Tests, and a third ophthalmic test, the complete plan designed as a screening process for testing the school child's useful vision. Psychological and personality adjustments relating to eye care were discussed by Rosenthal (56) and by Waters (58), presenting the medical social worker's role. Case studies of individual patients are included in the latter.

Medical and Educational Trends

Reference to trends and developments appeared in two articles, one by Hathaway (49) and one by Lawes (54). Hathaway discussed recent medical and optical developments, namely, diathermic procedure for operations on detached retinas, corneal transplantation, and contact and telescopic lenses. She included also advances in illumination, in auditory aids—the radio and the talking book—and in vocational guidance. Lawes summarized the special types of materials and lighting conditions that have been developed for sight-saving classes and made recommendations for needed research. A successful experimental rural program in caring for 38 visually handicapped in 31 school districts in Allegheny County, Pennsylvania, was described by Cohen (47). It was initiated by the Pennsylvania Association for the Blind in 1934 and because of its success recommendation was made that the state special education department should take it over.

Instruction Suggestions

Soares (57) recommended the use of the dictaphone as an aid in sight-saving classes having large enrolments and described methods of using it in intermediate grades and in high school in the city of Detroit. Phelps (55) and Burress (46) furnished material on the values of handwork in the sight-saving class, suggested units, and included annotated references on the subject. Various types of visual handicaps in school children and teaching technics to meet those handicaps were described by Davis (48). Kastrop (51) presented methods in beginning reading for the sight-saving pupil. Kniewel (52) listed sources of vocational information for the teacher. The assets of wholesome attitudes toward a range of occupations and the analysis of personal qualifications for the job were discussed.

Summary

The literature indicated that research on the medical aspects was continued, but that there were practically no objective or controlled experiments in methods and classroom technics. Studies of eye habits and the size and kind of print should be made to discover optimum methods and materials for different kinds of eye conditions. Research might well be carried on in diagnostic and remedial procedures suited to the visually handicapped, in methods and means of evaluating pupil progress, and in the use of mechanical aids, such as the dictaphone and Talking Book, as time savers for the teacher or reader. The whole area of the school's part in meeting the mental hygiene needs and personality adjustments of the visually handicapped child calls for scientific study.

C. The Delicate

Much of the literature on delicate children, or children of lowered vitality as they are sometimes termed, has treated of the medical and health aspects because of the growing realization that discovery and treatment is essential during the period of childhood. Strachan (72) presented an excellent review of the literature through 1937. At that time she noted that valuable information was available in the fields of tuberculosis, heart disease, and nutrition regarding the problem of delicate children, but that methods for selection for medical and educational treatment were still inadequate. A carefully selected and extensive bibliography was included.

Children with Heart Disease

Hood (64), director of the Crippled Children's Division of the United States Children's Bureau, stated that funds under the Social Security Act are now available for developing services for children with heart diseases and conditions leading to it, such as rheumatic fever. Nine states and the District of Columbia have made plans for 1941 to utilize the medical and social services offered. Silver (71), cardiologist for the schools of Newark, New Jersey, described the initial heart examination for all children entering gymnastic instruction and reported that cardiac conditions were located in 1 percent. Robinson (69) stated that 1.5 percent of school-age children have organic heart disease and that about 44 percent of this group have conditions serious enough for special-class placement. He emphasized the need for appreciating the significance of the condition and for providing rest and suitable exercise as a protection. Robinson (70) stated that individual programs with advice to parent and teacher are essential. Sutton (73) ascribed to rheumatic heart fever an annual death toll of 1 percent for the child population and urged that the symptoms be recognized and care provided.

Children with Diabetes

Brown and Thompson (59) studied case records and interviewed sixty juvenile diabetic patients. Data pertaining to body growth, intelligence, heredity, sex distribution, and incidence of acute infections were compared with equivalent data from nondiabetic siblings and from the records of diabetic subjects in other investigations. The intelligence of the experimental group showed no deviation from the average and no significant deviation from that of their sibling controls or from the average of Minneapolis children. No characteristic differences in personality were discovered. Teagarden (74) reviewed the literature on the intelligence of diabetic children and noted that certain studies reported a distribution of intelligence higher than the average. She then reported six case studies in which four of the six were below average. While she drew no conclusions, she pointed out that for certain reasons the incapable child suffering from this disease may not always be recognized as a diabetic.

Children Suffering from Epilepsy

Kugelmass and Poull (65) reported on the mental growth of epileptic children. Davis (62) described the various convulsive states of epilepsy and new methods of study by encephalography. Patry (68) stated twenty principles that the teacher should take into account in her guidance of a child who suffers from epilepsy. Crile (61) described the medical and educational program of a twenty-four-hour school for epileptics established in 1935 under the direction of the Detroit Board of Education. This arrangement made possible carefully controlled schedules for the children and periodic observations of mental and physical changes.

School Programs for Delicate Children

Wheatley (75) discussed the work of the school physician as a medical adviser and described a New York City project in which 160 physicians cooperated in studying the general health, living conditions, dietary and health habits of more than 5,500 below-par children. Important outcomes were changed attitudes on the part of the school physician toward his responsibilities and valuable material for use in educational work with teachers, parents, and community.

In a report (67) of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, the advantages and disadvantages of open-air classes were stated. Changing concepts affected the nature of the care recommended for the below-par child. The findings suggested that the question of special classes or other provisions for special health treatment was one that could be answered only by a study of local needs and facilities. It was recommended that a school health program should be extended to all, with modifications as needed for children who are below par physically. A national and representative committee of educators, hygienists, nutrition workers,

and physicians was appointed by the National Tuberculosis Association to consider the treatment and education of the below-par child (60). Significant recommendations were that the home should share with the school the responsibility for the children's below-par status and that school procedures be adapted to the individual pupil's need. DeKoning (63) gave specific suggestions for teacher guidance of parent cooperation in prevention as well as improvement.

Laton (66) described a high-school program of health service, which provided a rest-room to which below-par pupils might be assigned for certain periods. Relaxation and removal of pressure through this means made it possible for many convalescing and below-par pupils to carry on educational programs. Children of lowered vitality are also among the numbers who are cared for in hospitals and by home teaching as described in the next section of this chapter.

D. The Crippled

The literature on the crippled child has given emphasis to the close relationship between the medical, physical, and educational aspects of the program for the child with this type of handicap and the emotional and social needs of his development. Legislation on behalf of the cripple has received considerable study. The number of articles on the subject of cerebral palsy in children is increasing. Hospital programs, as well as day school programs, are included in this section.

Legislation and Services

Hood, director of the Crippled Children's Division of the United States Children's Bureau (85), described the medical, surgical, therapeutic, vocational, and educational services that are being promoted under the Social Security Act in the forty-eight states and two territories. In a second article (86), he reported that continued progress has been made in the development of services under the Social Security Act. Every state in 1940 was receiving federal grants-in-aid for services for crippled children and had an active program in operation. He stated that registration of crippled children was more nearly complete than at any time in the past. Howett (88) summarized answers to questionnaires sent to all states in 1939 concerning laws for (a) locating cripples, (b) furnishing medical, surgical, and after-care, and (c) education and vocational assistance.

The New York City Commission for the Study of Crippled Children (79) furnished a statistical analysis of the physical and social status of 16,731 registered crippled children. All agencies furnishing care in New York City—medical, social, educational, vocational, and recreational—were studied. Recommendations for further improvement of the work of agencies and the coordination of their services were made. McIntire (94) presented the several steps required to secure for the individual eventual vocational

placement and pointed out the way in which lay and professional services can be coordinated. Baker (76) analyzed the motives of those who contribute to programs for crippled children.

Emotional and Social Needs

Reznikoff (102) stated that for too long the problem has been approached from the physical point of view rather than on the basis of the individual's emotional reactions. Case abstracts were given to support this view. An exploratory attempt was reported by Kammerer (90) to investigate the psychological behavior of eighty crippled children of both sexes at the age of thirteen, fifty of whom suffered from osteomyelitis and the remainder from scoliosis. All came from the lower socio-economic level and were patients of a hospital for children. Intelligence and personality tests were given and interviews held with children and parents. Whereas the scoliosis group differed significantly from the Stanford-Binet norm, the osteomyelitis group did not. A low positive correlation was found between maladjustment and duration of the crippling condition. Social and personal inferiorities were not traceable to the handicap and very little evidence to support the theory of compensation was found. No other general psychological differences were discovered between the scoliosis and osteomyelitis groups. No evidence supported the thesis that physical defects are the cause of abnormal personalities. Ball (77) stated that the problems of adjustment of crippled children in the family, school, and community are not peculiar to the handicap, but may be intensified by it. She advised that treatment must be based on factors of relationship within the family and the resources in the community. Dimchevsky, a psychiatric social worker (80), discussed the worker's responsibility in respect to the personality needs of the handicapped. She gave striking illustrations of individual children and their parents who have problems in adjustment to face. Fifield (81) and Mulcahey (96) brought out that physiotherapy is a broadened function which should include counseling and mental health adjustments.

McGrew (93) described the fears and insecure feelings of pupils entering a hospital. Student nurses were trained to provide a program of treatment and teaching which aided stabilization and security. Mendenhall (95) described the program of the Philadelphia orthopedic school in making available to the children varied experiences in music, rhythmic, dramatics, interpretive and folk dancing, clay modeling and painting, and other phases of art work. She stated that the school can hereby provide outlets for self-expression both at home and in school. Ingram, Bryne, and Johnson (89) collaborated in a series of three articles devoted respectively to the values of the special unit in the elementary school, of the special school for crippled children only, and of the special school providing for all types of physically handicapped. Specific illustrations were given in the description of programs in New York State, Minneapolis, Minnesota, and Des Moines, Iowa.

Hospital Schools and Classes

Fitzgerald (82) described the educational program at Grasslands Hospital, Valhalla, New York, initiated in 1936 for children of preschool age who were hospitalized for an extended period. Nursery-school and kindergarten experiences adjusted to the physical limitations of the child proved invaluable as a preparation for first-grade work. Matheison (92) made a comprehensive study of legislation concerning hospital schools and an investigation of present practices in 162 hospital schools with a total enrolment of 5,378 children in 33 states and two territories. A conservative estimate of the number of children in American hospitals who need such care was placed at fifty or sixty thousand. The number of existing hospital schools was estimated at from 300 to 400. The number increased each decade from the date of establishment for the first class in 1861. In seventeen states, legislative provisions have been made relating to hospital schools or to special schools and classes which might be included as hospital schools. There was much variation in the types of provision made by these laws, in respect to status, support, and administration of the schools. Practically all the schools were in urban communities. Of the total number of school-age children reported hospitalized, 66 percent received instruction. Variation characterized all phases of school programs. It was noted that too many hospitals operated without the benefit of local or state supervision by educational authorities.

Closely related to hospital teaching is the teaching of home-bound patients. Oettinger (97) described in detail a home-teaching project for 200 children suffering from cardiac, orthopedic, and other ailments carried out by the Visiting Nurse Association of Scranton, Pennsylvania, with WPA assistance. The physical, emotional, and educational needs of the child were carefully considered to the end that each child might experience self-confidence and security.

The Child with Cerebral Palsy

Carlson (78) described in detail the problems met in the physical and mental development of the spastic child and the procedures used in muscle re-education. He emphasized the part which education plays in providing interests which help the child to forget himself and thus to achieve better muscular control. He also described the problems encountered in education and means used for relaxing physical education and strain. Phelps (98) described the program as it is carried on at the Children's Rehabilitation Institute in Baltimore. This school is for children affected with cerebral palsy who, after a trial period of three months, prove to be capable of improvement both physically and mentally.

Phelps (99) differentiated between the characteristics of the spastic as distinct from the athetoid type. He (100) described five lines of investigation in connection with patients suffering from cerebral palsy: (a) the

type of motor disturbance, (b) localization of brain hemorrhage, (c) testing of mentality, (d) psychological characteristics, and (e) various forms of treatment. He gave a brief summary of methods of treatment used with the spastic and the athetoid types; and he emphasized (99) their potentialities, holding that only about 25 percent are feeble-minded.

Pusitz (101) gave a comprehensive description of cerebral palsy with recommendations for physical treatment and speech work based on the psychological-psychiatric approach. Hoopes (87) wrote an autobiography describing her condition, which is that of congenital cerebral palsy, with inability to speak or to walk, and she discussed the development of physical, mental, and social factors in her life. Clinical notes were included by Phelps. Hiss (84) discussed the educational needs of the child afflicted with cerebral palsy. Strauss (103) analyzed the problems of the teacher and emphasized her need for ingenuity in guiding the child to help himself. Girard (83), a physician, discussed in nontechnical language the essential facts of spastic paralysis and made numerous suggestions concerning physical therapy, speech training, occupational therapy, and other problems to be faced by parents of the afflicted child.

Vocational Training and Placement

There has been very little reported in the area of vocational adjustments. Teller (104) furnished a brief report of a follow-up study of 51 crippled children graduated from the high school for crippled at Spalding School, Chicago. Statistics were presented concerning advanced study, employment, attitudes of teachers and employers, necessary adjustments, and suggested changes in the high-school course of study, as reported by the persons participating. Of the 51 children studied, 36 were employed, 15 not employed, 20 had gone to college, and 5 earned degrees. The majority of these graduates stressed the need for training during school life to establish self-responsibility and to minimize self-consciousness.

Kratz (91), the director of vocational rehabilitation in the United States Office of Education, traced the development of (adult) rehabilitation services in the United States from their inception in 1920 up to the present, indicating the trends toward case work and the inclusion of treatment for the home-bound. This study of adults is mentioned because it suggests trends which are also apparent in the educational program for children.

Recommendations

Research studies are advised in the following areas: types of handicaps that will benefit by home teaching, the cooperation of school and home in personality adjustment, the particular problem of the social and intellectual potentialities of the child suffering from cerebral palsy, and the development of suitable play and work programs for children limited in physical activity.

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A. The Blind

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CHAPTER VII

The Negroes¹

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APPROXIMATELY 12,000,000 of the total population of the United States are Negroes who have been a part of the national citizenry since the adoption of the Fourteenth Amendment to the Constitution of the United States in 1868. Most of these people, the largest minority group in the United States, live in the southern part of this country. The story of their education in the southern states in which there is a policy of separate schools for the whites and the Negroes falls into several well-defined periods. The first period extends from the introduction of Negro slavery in 1619 to the 1830's. The second extends from the 1830's to the Civil War. The third period includes the years from 1863, when the Negroes were emancipated by proclamation of President Lincoln, to 1876, when the process of Congressional reconstruction was concluded. The years from 1876 to about 1900 may be considered the fourth period, and the years from 1900 to the present represent the period in which the greatest progress has been made in the education of Negroes, and which has witnessed the widest study and publication on problems pertaining to it. In this chapter reference is made particularly to material which has appeared on the subject during the past five years.

Race Relations

Bowen (5) attempted to answer the question, "Are the Negroes an unassimilable minority in the United States? Or could they, if given a fair deal by the white population, become a contented and constructive part of the community?" He presented a study of race segregation and interracial cooperation in religious organizations and institutions in the United States. He traced the turbulent course of the Negro race through American history, in housing, schools and churches, business and industry, and asked whether the spirit of idealism characterizing the New Deal will affect these conditions among the Negroes.

A wealth of material was presented by Eleazer (20) on racial differentiation, the Negro in America, sentiment in the South for emancipation, the controversy over slavery, the educational progress, and the cultural contributions of the Negroes since emancipation. Factual data were given to stimulate inquiry and to promote better interracial understanding. A symposium of ten essays, edited by Thompson (54), dealt with race relations with special reference to the United States and more particularly to the southern states. It furnished interesting presentday views of various aspects of the race problem. Thompson concluded that race relations in

¹ Bibliography for this chapter begins on page 337.

regard to education were not improving as fast as seems desirable; that the Negro's educational opportunities will not improve more rapidly than his general social relations; and that Negroes should have a greater part in the control and administration of their schools. Wilkerson (55) suggested three steps: (a) evaluation of the present status of Negro separate schools; (b) determination of the adequacy of public education in the states having separate systems; and (c) suggestions, in the light of the findings, for the improvement of education for Negroes in states having the dual system of schools.

Davis and Dollard (17) analyzed the effect of the social caste and the formation of personality. The background material used concerned more than two hundred Negro adolescents. Johnson (30) mentioned the fact that race relations in the South since the introduction of slavery in 1619 have been largely caste relations. Crum (15) described Negro life as it actually is and said that a pressing social need today is some racial basis for a better understanding of racial problems. Canady (13) undertook to find the correlation between the intelligence level of Negro students at West Virginia State College and the occupations of their fathers. He found considerable overlapping. Later (14) he made another study to find sex differences in intelligence. The data failed to show significant differences.

Legal Aspects of Education

Ford (23) pointed out that seventeen southern states and the District of Columbia are required by legislative enactment to maintain separate schools for colored and white children. Mangun (37) reviewed the important court decisions bearing on Negro education, as well as on other aspects of Negro life. He reported that generally equal rights are expressly guaranteed, but that this does not mean that equal rights always obtain in actual practice. According to Brawley (7), the decision of the Supreme Court of the United States in the Gaines case of Missouri, in December 1938, ultimately will have far-reaching effects on Negro education, especially in those seventeen southern states which, under their constitutions and laws, have long followed a policy of separation of the whites and Negroes in schools. The Supreme Court ruled in the Gaines case that a state must provide substantially equal facilities for the education of the two races within the state. Wilkerson (55) noted that all southern states denied Negroes admission to their state universities, but some of these states provided scholarship aid to Negro students to do graduate and professional work elsewhere.

Educational Practices for Negroes and for Whites

Concerning differences in facilities provided for Negroes and whites in those states that follow the policy of separating the two races in schools, Raynor (46) showed that Negroes in seventeen southern states and the District of Columbia, while seeking educational facilities equal to those

enjoyed by the whites, suffered discriminations in instructional equipment, in qualifications and salaries of teachers, in transportation facilities, and, in some places, in length of school terms. He pointed out also that there were inadequate opportunities in some localities for secondary education and for graduate and professional work in public institutions. However, he also indicated that, since the decision was rendered in the Gaines case increasing opportunities for graduate and professional work were being provided for Negroes.

Meece (39) made a comparative study of educational facilities for whites and Negroes on the elementary- and secondary-school levels in the state of Kentucky and found that in that state there was no discrimination against the Negroes with respect to length of school term provided. The length of term was the same for Negroes as for whites in all the districts which maintained schools for Negroes. In equipment the schools for Negroes were not as good as the schools for white children and schools were accessible to a larger proportion of white than of Negro pupils. There appeared to be little difference in the amount of training of white and Negro teachers, and in length of teaching experience the Negroes exceeded the whites in the elementary schools and the whites exceeded the Negroes in the secondary schools. The lack of more remunerative work in other occupations was pointed out as perhaps the most important factor which made for the longer tenure of Negro elementary teachers. There was very little discrimination in the salaries paid to white and Negro teachers in the county school districts, the greatest amount of discrimination in this respect being in the independent school districts. White elementary teachers were superior to the Negro elementary teachers in general scholastic ability as revealed by tests based upon academic subjects at the college level and superintendents generally considered their white teachers superior to their Negro teachers in teaching ability.

Rural Conditions

It appears that Negro education is more neglected in rural than in urban localities. Caliver (8) so concluded from his study of Negro schools in twenty-eight counties in six southern states, in which he set out to compare the extent of educational facilities for Negroes with those for whites. It was indicated in this study that the amount of education offered in rural districts is meager in regard to length of term and attendance; that the quality of education is low with regard to types of schools, training and salaries of teachers, percent of over-age children, and percent of failures. Caliver (9) pointed out further that the South cannot provide educational opportunities equivalent to those in the North and that the federal government must of necessity aid.

Thompson (53) urged better preparation of Negro teachers, greater participation by Negroes in the administration of Negro schools, and suggested that Negroes should resist further extension of separate schools. Bond (4) pointed out that urbanization and industrialization have resulted in im-

proved schools for Negroes. He believed that further improvement in rural education and in the plantation economy must await fundamental changes in the structure of the economic system. Jones (31) gave a valuable description of twenty-five years' work in the supervision of rural schools for Negroes in the South under the support of the Anna T. Jeanes Fund, which was established in 1908. Redcay (47) gave the first historical presentation of the activities of the John F. Slater Fund in the county training schools, the forerunners of the Negro high schools in the South. This study showed that, notwithstanding the amazing growth in secondary education for Negroes, there were (in 1933) about 190 counties in the South entirely without public secondary facilities for Negroes.

Federal Relations

Davis (18) discussed the relations of the federal government to the seventeen land-grant colleges for Negroes. He said that none of them had been able to maintain work leading to graduate degrees, and that, while the Land-Grant Act stressed military training, none is provided in the Negro land-grant colleges. Lane (35) reviewed the relations of the federal government in Negro education from the Civil War to date and concluded that the question for the Negroes as for the whites now is: Shall Congress distribute federal subsidies in elementary, secondary, and other phases of education? Daniel and Miller (16) charged that Negro youth are not receiving a just share of NYA assistance and cited a long list of recommendations to remedy the situation. Bethune (3), on the other hand, said that in a recent year 55,000 Negro young people received federal NYA assistance in high schools, colleges, and graduate schools, and pointed to the phenomenal advance of the Negro since slavery.

Wright (57) showed that 15,000 Negro youth have been taught to read and write in CCC camps since 1933; that 10 percent of the CCC enrollees are Negroes, representing the percent that the Negro population bears to the total population. She held that racial segregation in camps should be discouraged, citing evidence that mixed camps in New England and in the western states had been quite satisfactory. Oxley (43) pointed out that between 175,000 and 200,000 Negroes have been enrolled in the CCC camps and that Negroes have received a fair share of benefits under the Civilian Conservation Corps.

Extent of Secondary and Higher Education

Knox (34) reviewed the development of secondary education for Negroes in the United States from the Colonial era to the present and pointed out that the number of approved Negro high schools is on the increase, that the number of such high schools accredited by the Southern Association of Colleges and Secondary Schools in 1931 was only twenty while in 1936 it had increased to eighty-three. Jordan (32) urged high-school training for domestic service, farming, beauty culture, and other occupations. However, his study of more than 1,000 high-school graduates in North Carolina

showed that the vast majority of them went into unskilled and semiskilled vocations. Melvin and Smith (40) reported that rural Negro youth were especially handicapped by lack of high schools.

Probably more has been said about higher education for the Negro than about any other single aspect of his education, especially since the decision in the Gaines case in 1938. Brawley (7) noted that even in the face of this decision it may be a long time before Negroes are admitted to state universities in all the southern states. Jenkins (28) gave data concerning enrolments in some Negro colleges and universities. He showed that there was an increase of about 15 percent from the academic year 1935-36 to 1936-37. He also pointed out that the number of institutions offering collegiate work for Negroes increased from fewer than 12 in 1916 to 121 in 1936; enrolment increased from 1,643 to 35,000 for the same period; and the number of books in the institutional libraries increased from 75,000 to 1,000,000.

Suitability of the College Curriculum

Gallagher (25) raised the question: Does the four-year college course unfit the Negro for life? He expressed the idea that there need be no fundamental difference between the college best suited to Negroes and that best suited to whites. Armstrong (2) directed attention to the fact that the type of college open to Negro youth has offered only liberal arts or liberal arts and practical arts; that Negro colleges have lagged in meeting the occupational needs of Negro youth; and that the pressing problem of the Negro college is its need to shape its program toward bringing about a change in the social pattern. This study also suggested that the vocational type of training is best adapted to a majority of Negro youth. Canady (12) stated that colleges for white students have been making much greater progress in adjusting their programs to individual requirements than have Negro colleges, but that only a beginning has been made in either case. He criticized Negro education as a whole for being mediocre in quality and lagging behind the general educational procession. Lee (36) included in his history of the Negro a guide for the evaluation of courses in high schools and colleges.

Concerning the Negro junior college, Ford (23) showed that there are twenty-seven junior colleges for Negroes in the states having separate schools, as compared with 491 for white students in the same states. He indicated some advantages of the junior college for the Negro, such as, inexpensiveness, nearness to the home, usefulness as a terminal course for those unfitted for a four-year course, and closer supervision of individuals than that provided in the universities and large colleges. Oak (42) believed that there are too many Negro colleges and that their geographical distribution is unsatisfactory. Raper (45) stated that there are enough college graduates each year in the South, both Negro and white, to accomplish noticeable improvement in race relations, if only they possessed the knowledge, attitudes, and skills required to accomplish improvement.

Number of Degrees Granted

McCuistion (38) showed that between 1914 and 1936 the master's degree was conferred on 1,476 Negroes, but that only one-fourth of these degrees were conferred by Negro colleges; that during the same period the doctorate was received by 139 Negroes, all of which were conferred by institutions outside the South; that no Negro institution offered work beyond the master's degree; and that less than 25 percent of the Negro leaders had been trained in the South during the past quarter century. Knight and others (33) reported that in the period from 1929 to 1939 the undergraduate enrolment of the principal degree-granting institutions for Negroes in Alabama increased from 258 to 2,970, that the number of degrees granted by those institutions during that time increased from none to 367, but that none of the institutions concerned provided any graduate work.

Johnson (29) presented results of an extensive and careful study of the objective records of professionally trained Negroes in this country from the time the first academic degree was conferred upon John Russwurm by Bowdoin College in 1826 through 1936. About 43,000 graduates were used as the basis of the general study, and an intensive analysis of 5,500 graduates was made. The study showed the number, distribution, and occupations of the Negro graduates, gave an analysis of some of the social forces that determined the number and status of these graduates, discussed the methods used in the higher education of Negroes in the United States, and presented some of the problems in that field.

Vocational Education and Guidance

The American Youth Commission has been interested in Negro youth problems and has issued some important publications in this field. Frazier (24) directed a study for the Commission in which he organized personality data under the topics of youth's experiences respectively in the family, the neighborhood, the school, the church, and in connection with hunting for jobs. Reid (49) summarized data from many sources on Negro youth, relating to problems of inequality, discrimination, restriction of rights, and limitation of franchise, which condition the environment and development of Negro youth.

Patterson (44) pointed to needed changes in vocational education for Negroes, the primary one being "to intellectualize the so-called menial occupations." Numerous job possibilities were suggested, out of which it was hoped that Negro leadership would develop. Rosenberg (50) gave some interesting facts concerning graduates of Hampton Institute to show that 100 percent of the women graduates and 95 percent of the men graduates were employed in teaching, clerical, newspaper, government, insurance, and social service positions. Hyte (27) made a study of twelve schools in Indiana and Kentucky to determine the occupational choices of Negro boys and conditions affecting them.

Hill (26) mentioned some obstacles in finding employment, the direc-

tion which vocational guidance and training should take, new kinds of jobs, and general occupational trends. He urged the promotion of interracial contacts, work experiences while learning, and increasing social understanding in the schools. Caliver (11) gave extensive information resulting from the national survey of vocational education and guidance sponsored by the United States Office of Education, urging the development of better guidance programs for Negro youth. In a later study (10) he analyzed the relation of the occupational status of Negro high-school graduates and nongraduates to their school experiences, urging more exploratory opportunities and improvement of guidance programs.

Bowling (6) pointed out that colleges for Negroes have failed to recognize occupational trends and are preparing too many students for business and the professions, whereas a greater opportunity exists in agriculture, industry, and mechanics. He said that conditions in North Carolina illustrate the futility of permitting more Negroes to prepare for professional careers than the economic status of the population warrants. Wilkerson (55) pointed out that training and education are not guarantees against dependency and destitution. He further stated that Negro schools and colleges lacked adequate equipment to carry on vocational education; that Negro youth's best chance was in manual or vocational work rather than in "general education"; that some states had received money partly on the basis of Negro population and had expended it for white schools or for white students. Thompson (52) claimed that the federal vocational program as a whole was available to Negroes to only two-thirds the extent to which an equitable distribution of opportunity would entitle them. Dollard (19) showed by a study of a southern community how literacy and vocational training tend to advance the social and economic status of the Negro, and how lack of schooling and inferior opportunities tend to restrict advancement.

Contributions of Negroes

It is likely that the situation with regard to the education of the Negro is much better than at any previous time, in spite of some opinions to the contrary. Embree (21) declared that poor schooling and other discriminations have acted to prevent the Negro from making his contribution to American life; that while the Negro is referred to as lazy, he has done the major part of the labor in the South for 200 years; that John C. Calhoun's cry, "Show me a Negro who can parse a Greek verb or work a problem of Euclid," has been answered many times; that the Negro's zest for life and his creative ability are among the nation's assets. It is now recognized, as the Advisory Committee on Education pointed out (1), that the low level of education which exists among Negroes is a severe burden not only on themselves but on all who employ them or otherwise have dealings with them. This situation obtains even in the northern states where the large influx of Negroes from the South makes the quality of

their previous training a matter of importance to the community in which they dwell and work.

Smith (51) presented a series of sketches of the careers of Negro Congressmen, classified according to the division of the Congress in which they served, the states which they represented, and the time of their tenure—whether before or after the period of Congressional reconstruction. This study contained also useful tables of information concerning the percent of Negroes in the population of the various American states and counties, lists of Negroes in all Congresses and their education and professions. Eppse (22) undertook to show how the history of Negroes may become a more vivid and worthwhile subject for study in schools and colleges. He enumerated some of the larger gifts and endowments to Negro education and gave an interesting account of some contributions Negroes have made to America in the fields of literature, art, music, and invention. Under Newbold's (41) direction, a sponsoring committee, working in cooperation with the University of North Carolina, Duke University, and the state department of public instruction in North Carolina, prepared biographies of five Negro leaders of the past half-century. The effort was to preserve in permanent form the inspiring record of the lives and activities of these leaders and to provide an opportunity for cooperative study by groups of white and Negro college students and faculty members.

Woodson (56), in a comprehensive presentation of the Negro's background of development, called attention to a changed point of view which emphasized "that the Negro be educated to his race rather than away from it (56:321)." He held that if from childhood the Negro were made aware of the history of his race, its achievements, and its potential contributions to its own group, as well as to others, he would gain a new conception of his role in society. Reddick (48:1363) stated that one of these days "history textbooks will be written differently. Then, no nation will be singled out as 'God's Country' . . . instead, the story will be told in terms of the whole society, in terms of the interplay of all the forces which have made for the upbuilding, the destruction, and the rebuilding of civilizations and cultures."

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CHAPTER VIII

Bilingual Children¹

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THE POINT OF DEPARTURE in this survey is 1932. In that year publications appeared which cover much of the work in this country up to that time. Cook's bibliography (19) on the education of native and minority groups was extensive, and it included the social, educational, and economic studies from 1923 to 1932. Sanchez (56) presented a critical study of forty investigations dealing with the intelligence of bilinguals, validity of intelligence tests, environmental influence, and language handicaps. Although this review discussed chiefly Spanish-speaking subjects, it was sufficiently comprehensive of the general work in bilingualism, and hence no reference will be made here to studies prior to its appearance.

The first part of this chapter will be restricted to the psychological and sociological aspects of the problem; the second part to the curriculum problems presented by bilingualism.

A. Psychological and Sociological Aspects of Bilingualism

The Language Background

Pintner (50) investigated the IQ of bilinguals. Four hundred and thirty Bohemian, Italian, and Jewish children from three New York schools were divided into groups on the basis of English or non-English-speaking backgrounds. They were tested by the Pintner-Cunningham and the Pintner Non-Language Primary Tests. In two schools, the non-English group did relatively better on the nonlanguage test. In the third school, no difference between the two tests was found. "It would seem from this study that great caution should be exercised in the comparison of children with different language backgrounds where they are being compared by means of verbal intelligence scores (50:240)." Arsenian (3, 4) studied the effect of language; 1,152 Italian and 1,196 Jewish children, born in the United States, nine to fourteen years of age, were given the Hoffman Bilingual Schedule, the Pintner Non-Language Test, and the Spearman Visual Perception Test. They were further examined as to relationship of bilingualism to age, sex, and socio-economic status. It was concluded "that bilingualism does not influence—favorably or unfavorably—the mental development of children ages nine through fourteen in the various groups studied in this investigation (3:153)." Hill (29) compared Italian children of Grades I, II, and III, who spoke Italian at home, with those who spoke English at home. Verbal and nonverbal intelligence tests and performance tests were used. No statistically reliable differences were revealed. Hill believed that the effect of bilingualism on the measured intelligence of this group could be disregarded.

Broom (9) administered the Miller Mental Ability Test, the McCall

¹ Bibliography for this chapter begins on page 350.

Multimental Scale, and the Henmon-Nelson Test of Mental Ability to the Spanish-American and Anglo-American grades of an elementary school from 1935 to 1938. The median IQ's for the Anglo-American on the three tests were respectively 123.3, 113.7, 112.6. For the Spanish-American the median IQ's were 94.5, 91.6, 92.9. "Language handicap and differences in educational opportunity during depression years detracted from the 'equal opportunity to learn,' affecting the Spanish-American group more than the Anglo-American group and tending to lower scores of individuals in the former group yielded by the mental tests (9:31)."

School Adjustment and Verbal Intelligence

Pintner and Arsenian (51) posited that "if bilingualism is a cause of school maladjustment, then children with high bilingual background, therefore under the influence of bilingualism to a greater degree, should show more maladjustment than children with low bilingual background (51:261)." The subjects were 469 native-born Jewish children in Grades VI and VII. High and low bilingual groups of boys and girls were equated on socio-economic status, compared as to their performance on the same intelligence and adjustment tests. No significant differences were found. Consequently it was felt that bilingualism bore no relation to verbal intelligence or school adjustment in this situation. Hoffman (31) constructed an instrument to determine the extent of bilingual background to which an individual is exposed. Its reliability and validity were tested on groups of Italian and Jewish children. "Bilingual background is not associated with chronological age nor with grade status for ages ten to fourteen and Grades V to VIII. . . . Results obtained for a group composed of several nationalities may be contrary to those found for any particular one of the nationalities of that group. It is best therefore to treat each nationality separately. . . . The extent of bilingual background is associated with achievement on verbal material, but not with performance on material of the nonlanguage type (31:65)."

Barke (5) compared bilingual schools in the primary grades where English was introduced as a special subject with two bilingual schools where English was the medium of instruction and Welsh taught as a special subject. "When mean mental ages are compared, the monoglot schools are superior in each case on the verbal tests with an average superiority of .8 of a year, but on the nonverbal tests it is the bilingual schools that are superior with an average superiority of .44 of a year (5:247)." In 1938, Barke and Williams reported a further study (6). The bilinguals were given verbal mental tests in both Welsh and English. The same tests were given to a similar monoglot English group in English. Performance and vocabulary tests were also administered. The difference between bilingual and monoglot groups was insignificant when measured by a mental test in which no language was used. The bilinguals were distinctly inferior when measured by a mental test in their second language. When the test was given to each group in its mother tongue, the monoglot was markedly superior. "The inference is that these bilingual children, aged ten and

a half years, and drawn from two adjacent schools in a mining district, are unable to do justice to themselves in either language (6:67)." Neither in their mother tongue nor in their second language did they have a vocabulary equal to that of the monoglot.

Walters (71) expressed an opinion, unsupported by evidence but valuable since he is a trained psychologist and is in the midst of the bilingual situation of Puerto Rico, that there is no justifiable theoretical ground for the assumption "that the simultaneous learning of two languages produces a mental obfuscation or tangling which impedes the learning of other subjects." He admitted from observation that such interference is present, "but by the same observation amount of interference does not seem to be very serious (71:11)." Smith (61) on a basis of the analysis of records of early speech of eight children during their sojourn in China and upon returning to the United States, suggested that there is confusion when the child hears both languages from the same source. But these records were made at an earlier age than the age Walters presumably was discussing. Smith (60) reported another study of the language development of children from two to six years of age, born in Hawaii, who came from a non-English-speaking ancestry.

The Influence of Experience and Environment on Test Results

Davenport (22) selected 210 pairs of Mexican siblings and 62 pairs of non-Mexican siblings in Grades I, II, and III. They were tested by the Goodenough Scale with directions in English and Spanish. The correlation between IQ's of the Mexican siblings was .25, for non-Mexican siblings, .51. "Older and younger children in Mexican families are much less alike in intelligence than are older and younger children in non-Mexican families." This "showed that some factor of importance had influenced those children which normally did not influence non-Mexican children in the same school grades. . . . The implication is that experience (or other contemporaneous factors) was responsible for the difference between older and younger Mexican siblings (22:306)."

Sanchez (55, 57) sounded a word of caution in the uses of mental tests to the effect that grave mistakes may occur if there is no community of experience. Results are valid only when items of the test are as common to each child tested as to children upon whom the norms are based. When the vocabulary used in the Stanford-Binet for years III-VIII was studied, it was found that there were eighty-four words that did not occur in a vocabulary used as a desirable goal for non-English-speaking children in New Mexico. Seneur (58) administered to 453 pupils in Grade IV-B, largely from foreign families, the Haggerty Intelligence Test and the Pintner Non-Language Mental Test. "Pupils from homes that use a foreign language tend to get results on the Haggerty Test which indicate lower ability than they evidently possess. . . . The intelligence of pupils in a foreign-language community is inadequately represented by the use of results of either of the two tests alone. If only one test is used, however, the Pintner test seems to be the better instrument (58:441)."

Forty Italian pupils of the same age and environment were tested by Hill (28). In their first year in school they were given the Stanford-Binet; in their fifth year the National Intelligence Test; in their sixth year the Otis Self-Administering Tests. The IQ's obtained on the Stanford-Binet correlated respectively .72 and .78 with the National and the Otis tests. IQ's from the last two tests correlated .86. The Binet IQ's of these bilingual children were excellent indicators of their future performance on verbal tests. Consequently, the author believed that the part of bilingualism in accounting for low IQ's has been overestimated. Garth and Johnson (26) made a survey of the abilities of 683 Mexican children in El Paso and New Mexico with the use of the Otis Classification and Otis Intelligence Tests. "These data show that the Mexican child is more like the American white at the early ages but less like them as they grow older in both achievement and intelligence as measured (26:229)." Caldwell and Mowry (11) measured Spanish-speaking pupils by use of essay and objective types of examination. Language difficulty operated to penalize these pupils when either type was used but the handicap was greater with the essay than with the objective type. Jalota (33) found the practice effect of the English form upon the scores of the vernacular form to be 0.52 percent, or practically negligible.

Cattell (14) criticized severely the medley of tests commonly used for measuring intelligence on the basis of their inclusion of environmental skills and then of their being used to prove that the environment affects intelligence. "Most of current statements about IQ's are really statements about special environmental skills, functions of fluctuation, experimental error of measurement, test sophistication (14:161)." He outlined a nuclear list of objects common to the observation of men wherever and however they live. From these he selected seven subtests to compose a culture-free intelligence test. No evidence is presented as to its validity and reliability.

Socio-Economic Status

Arsenian (3) pointed out that "the problem of bilingualism in the United States is one phase of the larger problem of immigrant adjustment to the conditions of life in this country (3:67)." In studying native-born Italian and Jewish groups he found that the coefficient of correlation between bilingualism and socio-economic status was $-.20$. That is, "higher bilingual status is accompanied by lower socio-economic status (3:81)." Manuel (40) evaluated the socio-economic status of 98 Spanish-speaking children in Grades II to V by the Sim's Score Card. The average of the group was between "low" and "very low." When these findings were considered in conjunction with the IQ's obtained by the Spanish edition of the Stanford-Binet, it was seen that "the low mean intelligence and the achievement of Mexican pupils is associated with a low mean socio-economic status, but the correlation within the group is low. An accurate prediction of the success of an individual pupil cannot be made on the basis of social status (40:38)." Neff (46) summarized the studies bearing on the relation of socio-economic status and intelligence and stated that the 21 points mean

difference in IQ found to exist between children of the lowest and highest status may be accounted for entirely in environmental terms (46:755).

Use of Translations of Tests

A Spanish translation of the Stanford Binet Scale and the English edition was used by Manuel (40) to study the 98 children reported above. An IQ of 82.5 was reported on the Spanish and 80.5 on the English edition. The suggestion was made that language factors need much consideration in evaluating the abilities of bilingual groups. "A Spanish translation of the Stanford-Binet Scale can be used to advantage in the prediction of the achievement of Spanish-speaking pupils in the first and second grades, but used alone it is inadequate for individual prognosis (40:37)." Mitchell (44) reported a study of 236 children in Grades I, II, and III of Mexican parentage. Two forms of the nonverbal Otis Group Intelligence Scale, primary examination, were administered, with directions for one form in Spanish and for the other in English. For all three grades there was a difference in mean IQ of 9 in favor of the Spanish test. The author does not believe that this difference can be used as a corrective figure because of the small number of cases used; yet he believed that bilingual children work under a serious handicap. Jalota found that the total disadvantage suffered by the average first-year high-school student "when he is given simple intelligence tasks in English as compared with his scores if the same tasks had been set in the vernacular (Hindu) amounts to 27.81 per cent (33:77)."

Comment

Research with bilingual children has been impeded by a lack of suitable measuring instruments and disagreement among psychologists on basic fundamental principles. Much of the experimental work deals with small groups and factors extremely difficult to equate; too little is known about different national groups, yet conclusions are sometimes drawn that are sweeping in nature. Amidst disagreement and conflicting opinions, the careful student can only tentatively accept such judgments and wait for corroborative work.

B. The Curriculum

There is available a steadily increasing body of material pertaining to the instruction of non-English-speaking pupils, but far too little is based upon approved research. The considered opinions of conscientious and experienced workers, however, should not be ignored. Descriptions of successful practice must guide teachers until there is adequate support or denial by experimentation.

General Bibliographies

Cook and Reynolds (20) presented an annotated bibliography of publications dealing with native and minority groups from 1932-34. Reynolds

(54) gave a description of the situation of the Spanish-speaking children in the Southwest up to 1932—housing, segregation, teaching technic, teacher training, economic and social status, intelligence, achievement, and scholastic progress. A general bibliography was included. Coleman and King (17) analyzed and evaluated the materials and technics that have been proposed for teaching English to young Spanish-speaking children of the Southwest. The nature and content of various state courses of study were discussed. Attention was also given to the courses of study in outlying areas of the United States, Canada, South America, and Cape of Good Hope. Coleman and King (16) presented also an annotated bibliography of 1,025 articles, both general and scientific, appearing from June 1932 to June 1937, and dealing with all phases of language teaching. This compilation gave particular attention to the secondary curriculum, but there were other types of references as well.

Use of the Mother Tongue or a Second Language

The use of the mother tongue versus the use of a second language for instructional purposes is a debated question in the United States. Most of the statements are merely unsubstantiated opinions. In Puerto Rico much work has been done in this field. As pointed out by Padín (48) the problem has been too often linked with political considerations. He gave a historical account of the methods used in Puerto Rico, though admitting that they were not based upon experimental evidence. Abel (1) gave a brief description of bilingualism in Belgium in 1932. Two (in some places three) languages were officially recognized and the schools were required to meet the problem. In general, the mother tongue was the language of instruction until the fifth year. At that time the second language became optional for special study two hours each week. The secondary schools gave much more time to the languages, with a proficiency test required for college entrance. The teachers in bilingual areas were expected to know both languages.

Braunshausen (8) asked: What are the intellectual and moral effects produced by bilingualism? After a brief summary of the experimental evidence in Europe, he stated that the results were somewhat unfavorable to bilingualism, though he pointed out that there were many factors to be considered. The second part of his book is devoted to methods of learning a foreign language. Bovet (7), from his experience in Europe, brought out a point that he believed ought to be thoroughly considered in the United States, but is generally overlooked. He held that not only the individual should be safeguarded but also the interests of the state. America is rather generally criticized for ignoring the language of the home in the public schools, but perhaps this is a wise step from the standpoint of national unity.

State Courses of Study

The state education departments of Arizona (2), California (12), New Mexico (32), and Texas (63) have issued monographs pertaining to the instruction of non-English-speaking pupils. Some space was given to oral

language, but with too little attention to the differences inherent in the languages which caused a carry-over into the learning of the second language. The Arizona course of study included a number of definite suggestions for teachers. The New Mexico and Texas courses of study gave special attention to the reading problem with word lists and sample reading lessons. Hughes (32) included in the New Mexico course a list of 660 words with an analysis to show amount of agreement with other vocabulary lists.

Aids to Beginning Teachers

A number of writers have recognized the problems of beginning teachers and have attempted to give them help. Their articles (10, 21, 27, 30, 38, 39, 45, 52, 66, 68, 72) treated the extent and importance of the bilingual problem in our schools, the necessity of considering the background of the pupils, the preparation of vocabulary lists which will have social utility, emphasis on oral English, a strong reading program, and use of community resources. Powers and Hetzler (53) gave a brief report of special classes in the Seattle schools. Chinese and Japanese children who had gone to school in their own countries were placed for one or two years in special classes where they received special help in speech—pitch, intonation, and pronunciation. An annotated bibliography was included in the report. Coale and Smith (15) collected from successful teachers descriptive accounts of their teaching of English to bilingual children. These accounts included games, songs, reading, and conversation lessons from first grade to high school. Cook (18) listed fifteen teacher-training institutions which offer courses for teachers or prospective teachers in the education of native and minority groups.

Language, Speech, and Reading Activities

It is generally agreed that there must be a preliminary period in which language activities should be stressed (36, 52). Tireman, Dixon, and Cornelius (68) recommended that vocabulary become of first importance. They estimated on the basis of a rigid individual testing program that a native Spanish-speaking child could be taught to comprehend 633 words and use 567 words by the end of the pre-first grade if proper technics were employed.

The effect of kindergarten speech training on progress in the primary grades was studied by Fuller (25). Three groups were studied over a four-year period. Beginning in the kindergarten, one group received two semesters of speech training; a second group received one semester of training; and the third group received no speech training. The special instruction centered about vocabulary building and conversation. Pupils with speech training were slightly more successful in reading, made fewer failures, and completed the first two grades in a shorter time than the children without speech training. However, the median age and intelligence scores of the group receiving speech training were higher, at time of entrance to low first, than those of the group receiving no training.

Eaton (23), using the Thorndike English list, the Vander Beke French list, the Morgan German list, and the Buchanan Spanish list, found 739 words among the first thousand most common words in all four of the languages. This list he pointed out should be useful in selecting words for non-English-speaking pupils. West and others (73) attempted to develop a vocabulary of limited amount by which all ordinary communication in idiomatic English can be effected. As far as the reviewer knows, no one has used this material with young bilingual children.

Tireman and Woods (70) compared the aural and visual comprehension of English by 47 Spanish-speaking pupils in Grades V to VIII. Statistically reliable differences indicated better visual than aural comprehension. The difference was largely due to superiority in vocabulary. Testing with an audiometer showed that the difference was not caused by poor hearing. The authors advanced the explanation that these children suffered a handicap because they hear and speak little English outside the school. Coale and Smith (15) found in an extensive survey of the schools of Hawaii that "written English is much more successfully taught to the bilingual children in the islands than is spoken English. . . . The points of greatest difficulty—verbs, articles, and nouns—are those in which the Oriental languages spoken here differ most from English If more children could be helped by kindergartens or other means to attain a higher standard of speech before school entrance, it would be beneficial (15:127)."

Tireman (67, 69), Hughes (32), Hoard (30), Meriam (42, 43), Petterson and Johnson (49), and Potter (52) presented evidence favoring what might be called an "activity" type of reading, in which charts are used based upon experience of the children. It was believed that these charts are more interesting and meaningful to non-English speaking children than a book. However, as Stone (62) pointed out, there is likely to be an insufficient repetition of the minimum vocabulary. He believed that such a method "should parallel rather than supplant a systematic and sequential plan in beginning reading (62:109)."

Experimental Schools

The task of appraising practices and theories of teaching bilingual children is particularly difficult because it involves a long period and many children. Meriam presented reports of such a school (42, 43). His fundamental thesis was that too much time and effort had been given to the mere form of our language with insufficient ideas for expression in English. Traditional organization and curriculum were changed. The program of work initiated consisted of four major subjects (play, handwork, storytelling, and social studies) and four minor subjects (singing, dancing, bathing, and free play). "Whatever of English is acquired by these bilingual children is strictly incidental to the accomplishment of a larger objective—the improvement of the normal activities of children (43:33)." Meriam made little attempt to present objective measurement. He reported and interpreted certain practices which are based upon the definite assumption that English is best acquired as an incidental byproduct.

A partial report of another experimental school was presented by Tireman (67). San Jose School was a graded elementary school of some 500 Spanish-speaking pupils. A systematic attack was made on the teaching of reading. In the pre-first grades, carefully prepared vocabulary work was stressed. The progress of the program was examined each year for five years by the use of the Gates Reading Tests and the New Stanford Achievement Tests. Only the evidence regarding reading was reported. It showed better than normal progress in the second grade, normal progress in the third grade, and a rapid drop-off in the fourth grade, with over a year's retardation in upper grades.

The Nambé School is another school which has been attempting to find better methods of teaching Spanish-speaking pupils. Tireman (64, 65) reported that the chief emphasis in this school was upon a curriculum adapted to the needs of the pupils. Basically this is similar to Meriam's contention. However, the program differed radically. Management of land and conservation of resources were studied extensively throughout the grades. Environmental resources and experimental plots on the school ground were utilized to furnish the background for reading material and to stimulate more functional reading in general. Judging from the average daily attendance, which was 93 percent of the enrolment for the school year, one could say this type of program was popular with children and parents. In a countywide testing program the eighth grade of this school held first place.

An illustration of the type of work that should be more and more encouraged among classroom teachers of bilingual children is the experiment reported by Overn and Stubbins (47). A first grade was divided; 22 native-born Americans were in one section and 18 children from foreign-language homes (German, Russian, Hungarian) were in the other section. In November, the Pintner-Cunningham Primary Mental Test was given. The foreign-speaking group had an average IQ of 87, the American group 106. In May, the Metropolitan Achievement Tests were given. The American group had a grade equipment of 2.6 and the experimental group 2.4. Perhaps of more importance was the fact that the number of failures during the year of the experiment was reduced from 17, 16, and 22 in three previous years to 4. Unfortunately, the method of instruction was not described.

School Achievement

Two hundred and one junior high-school pupils were tested by Fritz and Rankin (24) with mental and achievement tests. The Sim's Socio-Economic Score Card was also used. Three instructional groups were formed on the basis of language. That the pupils from foreign-speaking homes were handicapped in English was revealed by statistical treatment. It was recommended as a result of the findings that special instruction be given in English to overcome this handicap.

The Inglis tests of English vocabulary and special subject vocabulary were administered by Johnson (34) to four high-school classes of Spanish- and Anglo-Americans. The Spanish-American pupils were found to be

retarded seven to twelve months in vocabulary, as compared with the Anglo-American pupils. Kelley (35) gave the Iowa Silent Reading tests to 692 pupils in Grades IV to VIII; 43.8 percent were Spanish-speaking. The Spanish-speaking pupils tested one year below the English-speaking pupils in practically all phases of reading, except in the seventh grade where they were at the norm in paragraph comprehension.

Smith (59) devised a test which indicated that children who were learning at the same time two languages of different order of reading direction (vertical, horizontal) make more reversal errors than when learning one language at a time. On the basis of the new Stanford Achievement Test, Manuel (37) found that in Grades II to VIII the Spanish-speaking children scored on the average one year lower in reading than in arithmetic; slightly better in arithmetical reasoning than in computation; and about one-fourth of a year lower in paragraph meaning than in word meaning. Callicutt (13) constructed a vocabulary test of words drawn from textbooks used by the children and gave it to Mexican and non-Mexican children in Grades III to VIII. The Mexican children scored below the non-Mexican.

Artistic Talent

There is very general opinion that Mexican children are exceptionally talented in art. The validity of this opinion was studied by Manuel and Hughes (41). Four hundred and forty Mexican and 396 English-speaking children in Grades I to IV were measured by the Goodenough Scale on the basis of both intelligence and drawing ability. The evidence showed that intelligence and drawing were closely related, but that this relation decreased as the children advanced in school. The general average ability of the Mexican children in intelligence and drawing compared favorably grade for grade with that of other children, but, when compared by ages, the Mexicans showed lower average scores and greater variability. The belief that the Mexican children are especially gifted in drawing is not supported by the scores at any level. Apparent talent may be a matter of training and interest.

Comment

It would appear from the studies presented that there is a need for more longitudinal, carefully equated, experimental investigations. For example, conclusions regarding the effect of teaching in the mother tongue or in a second language should not be drawn until the identical subjects are observed throughout the elementary grades and perhaps through high school. Important factors may be overlooked when attention is given only to central tendencies for large groups. Many of the problems confronting bilinguals are common to all pupils and will be solved as better measuring and diagnostic instruments are devised, as teaching load is reduced, as better trained teachers are provided, and as the parents reach an improved economic status. Meanwhile, it is suggested that more attention be given to the peculiar kinds of errors made by bilinguals in oral and written

English, reading, and thinking. Their individual errors should be intensively studied in an attempt to find the causes. Once these are known, curriculum adjustments are possible.

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CHAPTER IX

The Indians¹

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EDUCATIONAL RESEARCH IN THE NARROWER SENSE has been almost completely absent in the field of Indian education and administration in the United States. Anthropological research, which has been voluminous, until recently has played very little part in guiding actual work with presentday Indians. The Meriam Report (*The Problem of Indian Administration*) of 1928 pointed out the manifold gaps in basic information which handicapped the work of the Indian Service, and since that time the studies made have been largely of a fact-finding nature. It is not easy to draw the line between studies which are related primarily to education and those which are primarily socio-economic, because many of the latter, properly interpreted, have important implications for Indian education.

One of the most important series of studies undertaken in the last decade has been by the Soil Conservation Service of the Department of Agriculture, cooperating with the Office of Indian Affairs (TC-BIA). This agency placed a staff of physical technicians, anthropologists, sociologists, and economists in the field at the end of 1935 and began a series of technical investigations of many problems existing on Indian reservations including the adjustment of the Indian populations to proper use of land, water, and other resources. The data and reports gathered by TC-BIA are intended to provide the Office of Indian Affairs with the necessary information with which to develop long-term plans for conservative use of Indian resources. The existing social organization of each Indian group and the degree to which assimilation to white ways of life has progressed were reported, and conclusions drawn as to the most effective integration of modern school instruction with reservation needs and life. None of these reports has been published, but they are available for reference in type-written or mimeographed form in the files of the Office of Indian Affairs.

Land Use and Human Dependency Surveys

The nature of these surveys may be indicated from a brief summary of three of the more recent:

1. The Lower Brule Sioux reservation in South Dakota was studied in 1937 (11). Without irrigated lands and situated in the heart of the Dakota drouth area, the reservation has not been in a condition to support the resident Lower Brule Indians for nearly a decade. Only 18 percent of the tribe's income was derived from the land. Half of this came from working the land, the other half from land leases. Sixty-eight percent of the total reservation income was found to come from the federal govern-

¹ Bibliography for this chapter begins on page 360.

ment in the form of made-work or relief, and 32 percent from private sources. Only three out of ninety-six families were without some form of relief aid. The original Indian communities derived from former encampments were well scattered for efficient utilization of range and available agricultural lands. As the population became increasingly dependent upon relief, the people moved to the agency community until 50 percent of the population was living there. To develop a self-supporting economy it will be necessary for these people to return to their former communities. The Indians had been previously living by land sales and leasing, and sales of capital livestock and horses. This economy, except for some leasing, has ceased. Proper land utilization is badly complicated by the present checkerboard pattern of tenure by whites and individual Indians. Fractioning of land allotments through inheritance is increasing. The drouth and economic depression only brought to a sudden climax the failures due to previous unwise land use.

The Lower Brule land estate has been increased through tribal and Resettlement Administration purchases. The development of a combined livestock and agricultural economy by Indians appears possible under a planned program of land use and community integration. Many of the former dry farms should be incorporated with the range and a balance achieved between range land and farm area for the production of winter feed. Proper control, use, and management of the range with its present complicated ownership calls for cooperation and consolidation. Education must facilitate the understanding of these problems and teach the technics of agriculture, stock raising, and business management if the Lower Brule are to change from a parasitic to an economically independent existence.

2. The survey at Fort Hall reservation, Idaho (13), in 1937-38-39 showed that the reservation possessed adequate resources to support the entire population, without subsidy, if these resources were utilized by the population. However, most of the land was allotted and many allotments were sold or redistributed through inheritance. This brought about a very uneven distribution. Income is also unevenly distributed, correlating closely with active participation in the cattle industry. Most of the Indians are petty landlords, leasing their allotments, and until recently much of their tribal reserve as well. In 1937, 95 percent of the Indian owners leased their property. While members of the older generations have adapted themselves to this condition, the younger Indians receive less rental income because they have inherited only fractions of their parents' allotment. The social life of the older reservation largely carried over from former culture, and, while satisfying to the elders, it is less satisfying to the children who are accepting white civilization. Full-bloods were found to be decreasing and mixed bloods increasing. The mixed bloods were found to be more socially acculturated, less stable, and tending to greater participation in cattle raising and farm economy for themselves. Proper land use, soil conservation, and long-term planning to bring the land back into use by the Indians will require active cooperation from them. Education

in the reservation day schools and nonreservation boarding high schools, to which the older children go, can be of great assistance in promoting these changes—aiding an understanding of new land practices and the possibilities of a new and improved livelihood.

3. The survey of California reservations (14) made in 1936 covered the Sacramento jurisdiction. This area includes all California north of Tehachapi Pass, except the northwest corner. Within the state are from 13,000 to 20,000 Indians with title to 570,000 acres of land, of which approximately only 10 percent is fairly productive. The same small percent of productive land is characteristic of the Sacramento jurisdiction lands. The Indians were found to be existing on two small reservations and on numerous tiny rancherias suitable for residence and for a limited amount of subsistence farming. Restricted resources had driven some of the Indians away, but the majority had maintained their own communities and were living under shocking conditions. The rancheria Indians supported themselves as migrant agricultural laborers, returning to their homes during the months of unemployment. On the two reservations, resources were more extensive and the Indians were making greater use of their land for farming and stock raising.

The biological assimilation that had been so rapid in the early American days of California, when the white population was predominantly male, has practically ceased. Inter-marriage is now limited largely to mixed bloods with small amounts of Indian blood. The Indian blood quantum of the rancheria population is approaching stabilization at a degree somewhere between one-half and three-fourths. Although these Indians work in local white economy and have adopted white dress, homes, and speech, they have become only partially acculturated and have not assimilated. They are personally and socially disorganized from being overwhelmed by civilization and from trying to live by the values of two radically different cultures. They are anxious to gain white prestige values and to have their "rights," especially public-school education and the vote. Education in the state public schools has been socially beneficial for the young California Indians. They have accepted it eagerly as a formula for a job and future success, but for those who have returned to their rural homes it has not supplied a beneficial training. Agricultural work is the probable employment for most. There is a demand for trained agricultural workers on white ranches. There are also possibilities for developing agriculture on their own lands and new lands that are being purchased for them. California Indians need far more education for a rural life than they are now receiving, before they can make the best of their rural situation where they prefer to live.

Regional Resources and Education

The Navaho have been the subject of more intensive research in the past few years than any other Indian tribe. Most of this research has been conducted by the Office of Indian Affairs and the Soil Conservation Service

of the Department of Agriculture, in collaboration, and remains unpublished. An integration of the technical and social science studies pointing to educational needs and objectives has been made by Boyce and Fryer (2). This study presented the economic situation of the Indians living in an area three times the size of Massachusetts. The population has increased from around 8,000 in 1860 to about 50,000 in 1940, and is one of the fastest growing groups in the United States. The available land area is limited and is insufficient to support all the people. Severe erosion has resulted from overstocking as the animal population has also increased. The basic economic problem is complicated by the changing culture of the Navaho. Out of this objective study Boyce (1) formulated a plan to educate the adults and children on the reservation for economic competence, thus supplementing the earlier study.

A study of the Navaho problem with especial attention to the role of education was undertaken in 1939 by the Phelps-Stokes Fund (4). The published report described the Navaho problem, the Indians in relation to their land, the administration, law and order, health and homes, the functions of the missions, and education as related to agriculture, homes, and health.

Hulsizer (3) presented an analysis of the cultural background of the Navaho and also the Dakota Sioux and offered an educational program designed in terms of regional needs. In both areas the Indians must depend on their own efforts to live and make adjustments to the constant changes in their life. Education in aiding these adjustments must keep within the framework of the contemporary Indian cultures. These cultures, derived from the old life, have developed on a family and community basis and are still dependent upon the same land environment although not upon the same animal life of their ancestors. The author took the position that it is necessary for the proper education of the children that they have intensive and frequent contact with the environment and communities of their people. It is not only more desirable for and desired by the Indians to be educated on this cultural basis, but contributory to the national welfare. This point of view conflicts with the earlier drive toward immediate acculturation and has not won complete acceptance on the part of all white groups interested in Indian welfare.

Orata (9) spent a year as principal of a consolidated day school offering nine grades of instruction on the Pine Ridge reservation in South Dakota. His purpose was to determine whether the present endeavor to relate the school program to the community needs in an Indian area is sound; the extent to which the training experiences and motivation originating in the school carry over into the life of the community; and how effectively pupils, teachers, and adults of the community may participate in the formulation and execution of the school program. His manuscript, on file in the Office of Indian Affairs, presented transcriptions of the discussions occurring in faculty meetings, community gatherings, and student conferences. He showed in minute detail: (a) how small problems that

arose in the school led to the discussion of basic principles; (b) how this resulted in the adoption of a common objective on the part of staff members; (c) how these staff members undertook individually and collectively to promote these objectives; (d) how students and parents participated individually and collectively in defining objectives and embodying them in their own purposes; and (e) how ways were devised for measuring the success with which these objectives became part of community life.

Continuing Vocational Surveys

MacGregor and Sterner have undertaken a study of the results of the recent vocational education programs in Indian schools for the Education Division of the Office of Indian Affairs. During the past three years the post-school records of the graduates of six federal boarding schools have been studied. The underlying purpose was to evaluate the extent to which Indian schools have been successful in adjusting their students to the surrounding majority whose culture pattern is radically different. As most of the students were found to return directly or indirectly to their original homes, a study of economic and social backgrounds of these reservations was included.

The first study was made of students of Oglala Community High School on Pine Ridge Reservation, South Dakota, and the St. Francis Mission School on the neighboring Rosebud Reservation (7). It was found that 75 percent of the boys never left the reservation and one-sixth of the remainder had left but returned. Eighty-four percent of the girls had remained on the reservation since leaving school. In employment 33 percent of the boys were following their trade training and 33 percent were not. The remainder were unemployed or continuing their education. More significant, 82 percent of all employed boys were working for federal relief or missionary agencies, supported from outside sources. Few girls were employed and the very definite trend for them after leaving school was to marry and manage homes on the reservation. The reservation offered enormous cattle ranges and small subsistence farms, both little utilized by the Indians. The obvious implications of the survey are that specialized training beyond general education for these Sioux should prepare for a modern Indian life in Indian communities based on a livestock economy.

The next survey turned to the California students who had been trained at Sherman Institute, Riverside, California (8). This is a nonreservation school which had a predominantly industrial vocational curriculum. Much attention had been given to placing the better grade of students in southern California industry, and about 33 percent of boys from this school were employed in work similar to their vocational courses. In contrast to Pine Ridge, 75 percent of the boys had not returned home. The girls showed an opposite trend, 75 percent ultimately going back to their Indian communities. While the reservations from which these students

came contained much poor land, a good chance existed to supplement seasonal wage work by running cattle, subsistence gardens, or fruit orchards. As a result of the study, Sherman Institute has now created a valuable basic agricultural curriculum for both its boys and girls. Whether or not they return home permanently or temporarily, they will have a thorough technic for deriving the most from their home opportunities.

In 1939 the survey was carried to Arizona (6). The nonreservation Indian boarding school at Phoenix draws its students from a dozen reservations within the state. Environment, type of economy, native culture, and degree of acculturation differed widely, and accordingly the study and findings were restricted to a reservation rather than a state basis. The backgrounds of history, economics, social organization, and education were summarized for each large southern Arizona reservation. As a group the Arizona reservations have fairly ample resources, without the checkerboarding of white- and Indian-owned lands. They offer the greatest promise for a happy existence of Indian minority groups within white American life. The young people indicate a very real desire to perpetuate and improve it, and they thus reflect the power of the existing Indian life to bring them back, even after years of school influences directing them into different work and to white centers of life.

The most recent survey, still in manuscript, was made among the graduates from Oklahoma who attended Chilocco and Sequoyah Schools in that state, and Haskell Institute in Kansas (5). All three are nonreservation schools. The statistical tabulations indicated some interesting trends. Two-thirds of both boys and girls from the Five Civilized Tribes Area of Eastern Oklahoma have not returned home. Two-thirds of the boys in government employ have regular rather than relief positions. Among girls who did or did not return, there was a wide variation in types of employment rather than a concentration in housework.

The explanation as to why this group of boys and girls do not return home undoubtedly lies in the lack of resources and opportunity at home. The Five Civilized Tribes have been deprived of most of their lands. Recent drought and erosion have added to the hardships of rural life in eastern Oklahoma. On the other hand, easier assimilation or acceptance by Oklahoma whites has allowed extensive and varied employment. The high degree of regular employment in the Indian Service among this group of students has been greatly facilitated by the commercial course at Haskell Institute. The findings for Indians on reservations in middle and western Oklahoma were less clearly defined.

The general conclusion that can be made from these surveys at this time is that where home resources and social life offer an opportunity for Indian graduates, they prefer to return to them. Where resources are not supporting the Indians, young people are driven to move out. The implications of the facts for curriculum reorganization were explored and each study included specific recommendations.

Indian Missions

Strong (10), in a comprehensive study of the relations of government and Indian Christian Missions in the United States, gave considerable attention to the role of missions in the education of Indian children. She traced the development of missionary education from its inception in the early days of the colonies up to the present time. She pictured the growth and development of the government schools and the gradual increase of tension and conflict between mission and government schools, and she placed the whole discussion within the framework of changing social philosophy with regard to treatment of the Indians.

Her conclusions were as follows: "Missionaries were the first to bring education to the Indian people. Its purpose was to civilize them or to teach them the ways of the white man. It has changed very little in objective since then, although it has changed in form and content. Today the Administration is proposing a new type of education—that which develops the personality and the latent powers of the individual and integrates him into his changing social community. If religion is to be operative in the lives of Indian children, then this educational program must have religious resources on which to draw. Are the missionary forces ready to supply this need? Are they equipped to take part in the guiding of expanding life so that all the common experiences of everyday life will have religious significance? This is the challenge which the new progressive education policy of the present administration presents to the Indian missionaries. They have stated that they will welcome the cooperation of the missionaries, but it will be cooperation in this new program. The type of authoritative religious instruction missionaries have so long given children in government schools will be totally inadequate to meet the demands of the new situation. If the missions cannot fill the need of religion in life, then the ancient religions may take up the gap."

Strictly anthropological research has been omitted from this report. Surveys of the type being made by TC-BIA and MacGregor and Sterner for the Indian Office are continuing, and additional work is now in process. Vocational surveys of the territory tributary to the Flandreau Indian School in South Dakota and the Santa Fe and Albuquerque Schools in New Mexico have been undertaken as thesis problems and are still in process.

Under the sponsorship of an interdepartmental committee of the federal government, the Indian Office has undertaken a research project aimed at the development of improved recruitment, selection, and placement of Indian Service personnel. Specifically the project seeks:

1. To devise a paper-and-pencil test of approximately an hour's length to be used as a supplement to the existing Civil Service examinations in selecting personnel for the Indian Service.
2. To develop a rating form which will serve as a valid and reliable instrument to measure actual performance of employees (12). This work is still in process. There is an aroused interest in research as bearing on

Indian education and administration which should within the next decade produce a much richer volume of literature.

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